

6103838310 P.02/07

**ENVIRONMENTAL ASSESSMENT, TESTING AND ANALYSIS, INC.**  
**PO BOX 1557, CLINTON, MARYLAND 301-856-0340**

November 26, 2001

Mr. Larry Deal  
Facilities Maintenance Manager  
FLETC  
Cheltenham, Maryland

Environmental Assessment, Testing and Analysis, Inc. (EATA) was requested to place environmental collection devices to measure the RADON content from four buildings representing the area contained in the FLETC Complex at Cheltenham, Maryland. The buildings chosen to represent the area were Building 1, Building 50, Building 13 and Building 31.

These buildings were selected because of the age (oldest and higher potential for having Radon Gas present.) Older buildings are more prone to have cracks in the foundations, floor slabs and penetrations, including floor drains, due to age deterioration of concrete or settling and should provide the best targeted areas for Radon measurement. Collection of Radon in air samples was accomplished by placing two E-perm<sup>a</sup> System Electret Ion Chambers four inches apart and twenty inches from the floor in the lowest levels of the aforementioned buildings. A description of the E-perm system and why it was used is provided.

The E-PERM System is the first integrated system of instruments for radon and radon-related measurements. It is based on the use of a digital electrostatic voltmeter to measure the difference in potential on the surface of an electret in response to the ions collected due to radiation.

The electret is a small wafer of Teflon<sup>R</sup> (DuPont) that has been specially manufactured to maintain an extremely stable electrostatic field potential. When the electret is housed in an electrically conducting chamber containing a known volume of air,, it can efficiently collect all of the ions that result from the interaction of radioactive particles or rays with the air inside the housing.

The collection of ions opposite in polarity to the potential on the face of the electret reduces its electrostatic voltage in direct proportion to the total radioactivity inside the chamber. By determining the voltage loss over a time interval, it is possible to compute, using appropriate calibration, the average concentration of radon in the air in the chamber, and hence radon the room where the chamber is located. Since the factors that determine the calibration are almost exclusively associated with the dimensions of manufactured components and are virtually unaffected by other environmental factors such as temperature, relative humidity and air drafts, it is possible to obtain radon measurements of great accuracy and precision.

The radon in air is sampled by the small bottle-like device called an E-PERM chamber. It is made of black electrically conductive plastic. The conductive surface confines the lines of

electric field established by the open face of the electrostatically charged Teflon<sup>®</sup> (DuPont) electret which is installed in the bottom of the chamber. The scientific name for the device is an electret chamber of EIC, for short. The E-PERM EIC is designed to provide very accurate radon-in-air measurements at exposure periods ranging from one day to over one year, depending on the design of the chamber and the type of electret installed. Air with the same concentration of radon gas as the room is admitted into the chamber through several small holes in the top of the chamber by passive diffusion. These holes are covered with a filter paper to exclude dust or any other particles that might cause ions or interfere with the electret capture of ions due to radon decay.

When a radon atom radioactively disintegrates, the nucleus emits an alpha particle which passes a short distance through the air. The alpha particle collides with atoms of gases in air and its energy is enough to knock electrons free from the atoms of gases such as oxygen or nitrogen. A little cloud of free electrons and positively charged (ionized) oxygen and nitrogen atoms is left in the path of the alpha particle. The charged atoms and electrons (now called positive and negative ions, respectively) are moved by the electric field established by the electret.

In the E-PERM the face of the electret is positive and attracts the negatively charged ions (mostly electrons). The shell of the chamber is negative and attracts the positive ions. The radon atoms that decay inside the E-PERM chamber produce ions that are collected by the electret and reduce its electrostatic potential by a measurable amount.

The laboratory results of the testing of the samples collected are attached. As evidenced by the laboratory results, none of the samples collected indicated that Radon Gas exists in the targeted buildings any in any amount approaching the EPA Action Level for Radon, which is 4.0 picocuries per liter of air (pCi/L).

The reporting of the inspection information should not be used for any purpose other than that indicated. Any application and/or use of the information that may be given for any purpose other than that intended by any entity other than the client, shall constitute an agreement to defend and indemnify Environmental Assessment, Testing and Analysis, Inc. from and against any and all liability in connection with the performance of these services, and the information provided, whether arising out of Environmental Assessment, Testing and Analysis' negligence or otherwise and shall limit any and all liability for damages, cost of defense, or expenses against Environmental Assessment, Testing and Analysis, Inc. to a sum not to exceed the total of the compensation for services, due to error, omission or negligence.

Respectfully Submitted,

  
Edward Beck



# METS Laboratories

179 Smallwood Village Center, Waldorf Maryland 20602

Metro: 301.870.1995  
Toll Free: 800.604.1995  
Fax#: 301.870.1701

## Radon In Air Analysis Report

MD State Certified Laboratory #242, NLLAP / AIHA #21506  
Test Method: Electret Ion Chamber  
Report #: 011126813

Account Number: 11-0207  
Client Name: EATA  
PO Box 1557  
Clinton

MD 20735

Date Received: 11/26/2001  
Date Read: 11/26/2001  
Date Reported: 11/26/2001  
Inspector: 15

Testing Address: Building 31 Room B-18

Sample #	Detector Location	Electret ID	Start Date	Start Time	End Date	End Time	Duration Test Days	Radon Conc. (pCi/L)
#1	Basement	SY2072	11/20/2001	11:30 AM	11/23/2001	11:20 AM	2.89	1.2
#2	Basement	SY2015	11/20/2001	11:30 AM	11/23/2001	11:20 AM	2.89	1.1
Average Radon Concentration (pCi/L) =								1.1

“ EPA Action Level for Radon is 4.0 pCi/L ”

Reviewed by:  
Miria P. Perez, Quality Control

“While every effort was made to maintain accuracy and quality control, neither METS Labs nor it's agents provide any warranty for the consequences of erroneous test results. METS Labs and it's agents shall not be liable under any charge or claim for losses, claims, charges, fees, demands, expenses, or damages resulting from a radon test.



# METS Laboratories

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Toll Free: 800.604.1995  
Fax#: 301.870.1701

## Radon In Air Analysis Report

MD State Certified Laboratory #242, NLLAP / AIHA #21506

Test Method: Electret Ion Chamber

Report #: 011126812

Account Number: 11-0207

Client Name: EATA

PO Box 1557

Clinton

MD 20735

Date Received: 11/26/2001

Date Read: 11/26/2001

Date Reported: 11/26/2001

Inspector: 25

Testing Address: Building 13 B-5A

Sample #	Detector Location	Electret ID	Start Date	Start Time	End Date	End Time	Duration Test Days	Radon Conc. (pCi/L)
#1	Basement	SY2017	11/20/2001	11:40 AM	11/23/2001	11:15 AM	2.98	0.8
#2	Basement	SY1985	11/20/2001	11:40 AM	11/23/2001	11:15 AM	2.98	0.6

Average Radon Concentration (pCi/L) = 0.7

**\*\* EPA Action Level for Radon is 4.0 pCi/L. \*\***

Reviewed by:  
Maria P. Perez, Quality Control

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# METS Laboratories

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## Radon In Air Analysis Report

MD State Certified Laboratory #242, NLLAP / AIHA #21506

Test Method: Electret Ion Chamber

Report #: 011126811

Account Number: 11-0207  
Client Name: EATA  
PO Box 1557  
Clinton

MD 20735

Date Received: 11/28/2001  
Date Read: 11/28/2001  
Date Reported: 11/28/2001  
Inspector: 16

Testing Address: Building 1, FLETC, Cheltenham, MD

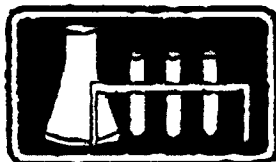
Sample #	Detector Location	Electret ID	Start Date	Start Time	End Date	End Time	Duration Test Days	Radon Conc. (pCi/L)
#1	Basement Elec. Closet	SW5316	11/20/2001	10:00 AM	11/23/2001	11:00 AM	3.04	2.3
#2	Basement Elec. Closet	SW5199	11/20/2001	10:00 AM	11/23/2001	11:00 AM	3.04	1.9

Average Radon Concentration (pCi/L) = 2.1

\*\* EPA Action Level for Radon Is 4.0 pCi/L. \*\*

Reviewed by:  
Maria P. Perez, Quality Control

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# METS

## Laboratories

179 Smallwood Village Center, Waldorf Maryland 20602

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Toll Free: 800.604.1995  
Fax: 301.870.1701

### Radon In Air Analysis Report

MD State Certified Laboratory #242, NLLAP / AIHA #21506

Test Method: Electret Ion Chamber

Report #: 011126814

Account Number: 11-0207  
Client Name: EATA  
PO Box 1557  
Clinton

MD 20735

Date Received: 11/26/2001  
Date Read: 11/26/2001  
Date Reported: 11/26/2001  
Inspector: 25

Testing Address: Building 50 Room 101, FLETC, Cheltenham, MD

Sample #	Detector Location	Electret ID	Start Date	Start Time	End Date	End Time	Duration Test Days	Radon Conc. (pCi/L)
#1	First Floor	SU9226	11/20/2001	10:15 AM	11/23/2001	11:10 AM	3.04	1.0
#2	First Floor	SU5223	11/20/2001	10:15 AM	11/23/2001	11:10 AM	3.04	1.3

Average Radon Concentration (pCi/L) = 1.1

\*\* EPA Action Level for Radon is 4.0 pCi/L \*\*

Reviewed by:  
Marie P. Perez, Quality Control

--While every effort was made to maintain accuracy and quality control, neither METS Labs nor it's agents provide any warranty for the consequences of erroneous test results. METS Labs and it's agents shall not be liable under any charge or claim for losses, claims, charges, fees, demands, expenses, or damages resulting from a radon test.

N00788-0015

# ENVIRONMENTAL BASELINE PROPERTY ASSESSMENT

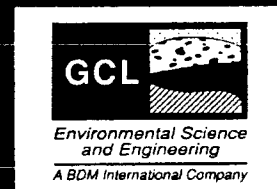
1413 Research Boulevard  
Rockville, Maryland  
Contract No. N62477-93-D0044  
Delivery Order 0003

*December 27, 1994*

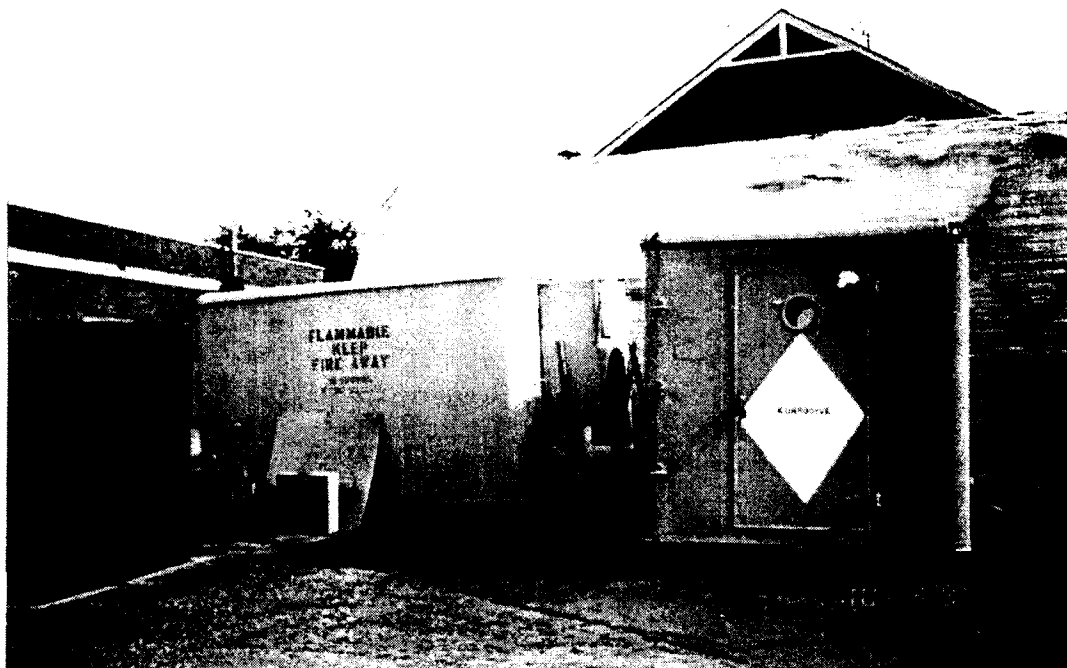


*Prepared for:*

Department of the Navy  
Engineering Field Activity Chesapeake  
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Washington, D.C. 20374-5018



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Suite 240  
Lanham, Maryland 20706  
(301) 459-9677  
FAX: (301) 459-3064



Flammable and corrosive storage trailers for Building 110 Public Works storage.

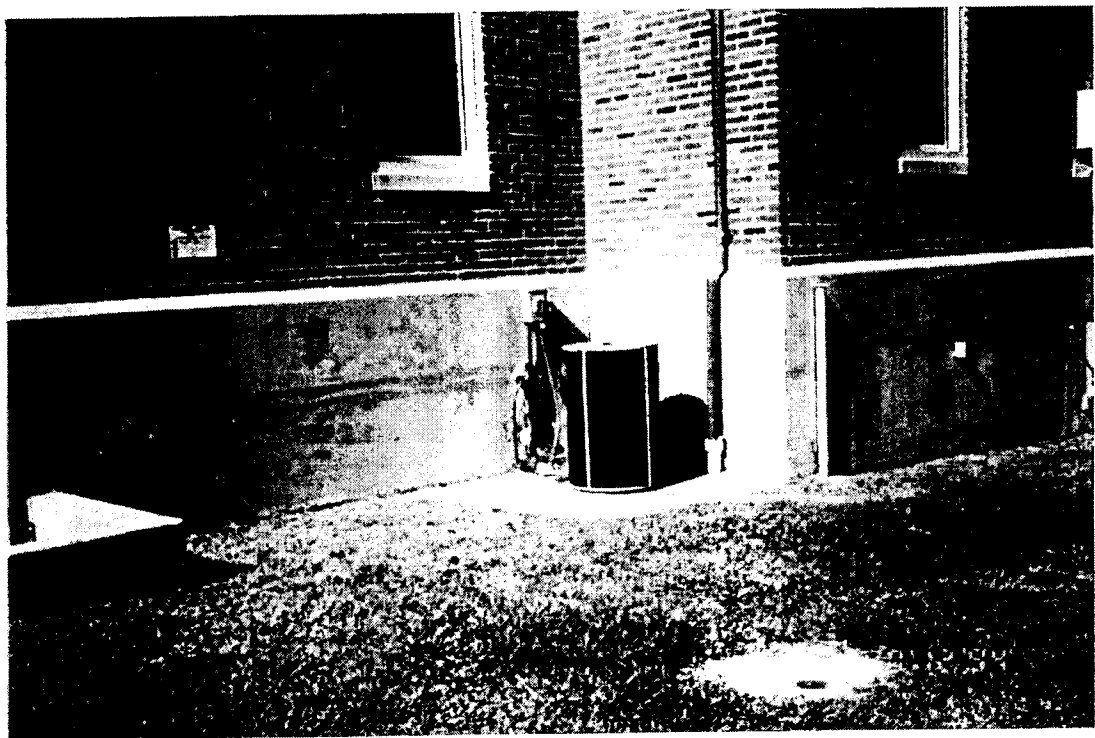


Cleaning chemical storage in Building 214. Some of the containers were damaged and leaking, including a box labeled corrosive.





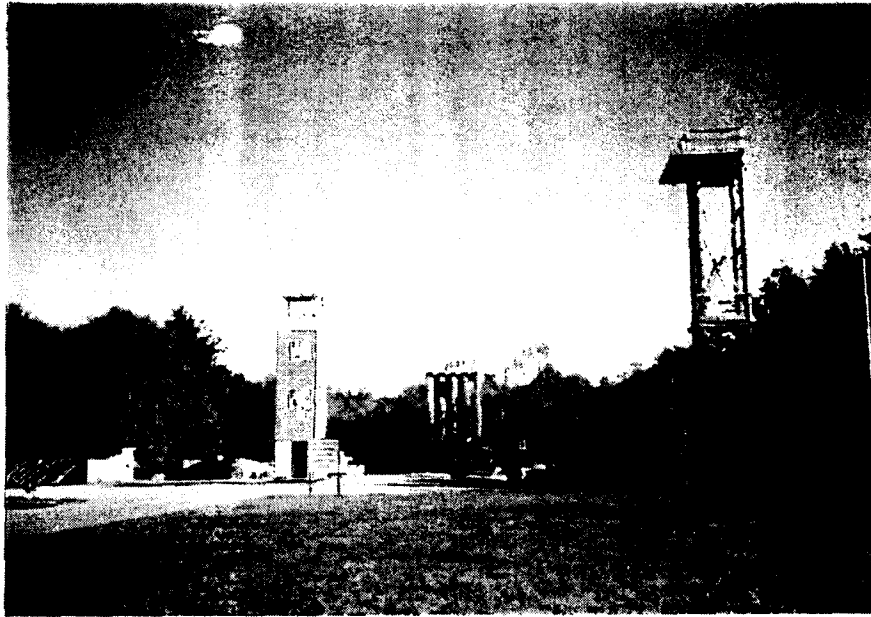
Floor drain in Building 108



Number 2 diesel fuel UST at Building 13.



Both photos: storage area between Buildings 33 and 11, including various drums and appliances.



Building 41, currently part of the P.G. County Fire Training Academy. Storage for burn material for fire simulation area.



P.G. County Fire Training Academy fire simulation area.

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## **Glossary of Terms, Acronyms, and Abbreviations**

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ACM	Asbestos-Containing Material
AHERA	Asbestos Hazard Emergency Response Act
AST	Aboveground Storage Tank
BOD	Biochemical Oxygen Demand
BTEX	Benzene, Toluene, Ethylbenzene, and Xylene
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CERFA	Community Environmental Response Facilitation Act
CWA	Clean Water Act
DLA	Defense Logistics Agency
DoD	Department of Defense
DoE	Department of Energy
DoT	Department of Transportation
DRMO	Defense Reutilization and Marketing Office
E&I	Environmental & Infrastructure
EBS	Environmental Baseline Survey
EFA CHES	Engineering Field Activity Chesapeake
ERIIS	Environmental Risk Information & Imaging Services
ERNS	Emergency Response Notification System
FINDS	Facility Index System
FOIA	Freedom of Information Act
FRP	Fiberglass Reinforced Plastic
GCL	Geoscience Consultants, Ltd.
GSA	General Services Administration



HF	High Frequency
HNUS	Halliburton NUS
HTHW	High temperature hot water
HUD	Housing and Urban Development
HWS	Maryland Notice of Potential Hazardous Sites
HWS	Hazardous Waste Site
IDS	Illicit Discharge Study
JITC	Joint Interoperability Test Center
KVA	Kilovolt Amps
LQG	Large Quantity Generator
MARS	Military Affiliate Radio System
MDE	Maryland Department of the Environment
MEK	Methyl Ethyl Ketone
MES	Maryland Environmental Service
mg/kg	Milligram per Kilogram
mg/L	Milligram per Liter
MNCPPC	Maryland National Capital Park and Planning Commission
MSL	Mean sea level
NAVTELSIC	Naval Telecommunications Systems Integration Center
NCDC	Naval Communication Detachment - Cheltenham
NCIS	Naval Criminal Investigative Service
NCTS-W	Naval Computer and Telecommunications Station - Washington
NCU	Naval Communication Unit
NDW	Naval District Washington
NEESA	Naval Energy and Environmental Support Activity

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NFPA	National Fire Prevention Association
NIS	Naval Investigative Service
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
NRC	National Response Center
NUCLEAR	United States Nuclear Regulatory Commission Report
O&M	Operations and Maintenance
OPENDUMP	Open Dumps Report
PA	Preliminary Assessment
PCB	Polychlorinated Biphenyls
PCE	Tetrachloroethylene
PCi/L	Picocuries per Liter
PEL	Permissible Exposure Limit
PEPCO	Potomac Electric and Power Company
ppm	Parts per Million
PRP	Potentially Responsible Party
RCRIS	Resource Conservation and Recovery Information System
RF	Radio Frequency
SARA	Superfund Amendments and Reauthorization Act
SQG	Small Quantity Generator
SWF	Solid Waste Facility
SWPPP	Storm Water Pollution Prevention Plan
TCA	Trichloroethane
TCE	Trichloroethylene

TPH	Total Petroleum Hydrocarbons
TRI	Toxic Release Inventory System
TSD	Treatment, Storage, and Disposal
U.S. EPA	U.S. Environmental Protection Agency
µg/L	Micrograms per Liter
UPS	Uninterruptable Power Supply
UST	Underground Storage Tank
WSSC	Washington Suburban Sanitary Commission

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## **U.S. Naval Communications Detachment - Cheltenham, Maryland Environmental Baseline Survey**

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*GCL*

### **1.0 Executive Summary**

Geoscience Consultants, Ltd. (GCL) was retained by the Department of the Navy, Engineering Field Activity Chesapeake (EFA CHES) to conduct a base-wide Environmental Baseline Survey (EBS) of the Naval Communication Detachment-Cheltenham (NCDC) located in Cheltenham, Prince George's County, Maryland. The purpose of the EBS was to compile information regarding environmental conditions on the base, document the nature and extent of known environmental contamination on the base, and identify uncontaminated and potentially contaminated on-base and adjacent parcels. The EBS was conducted as a component of implementing the Community Environmental Response Facilitation Act (CERFA), Public Law 102-425, as it amends Section 120(h) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA). CERFA requires the identification and documentation of all uncontaminated real property parcels at installations undergoing closure or realignment.

NCDC consists of 230.29 acres, including property leased to the Prince George's County Government, Office of the Fire Chief for use by the Fire and Rescue Training Academy. NCDC is bounded to the west by the Department of Energy (DoE) Maryland Relay Site, and to the north, east, and south by property owned by Prince George's County consisting of the Cheltenham Wetlands Park, two access roads, and the Boy's Village of Maryland, also known as the Cheltenham Youth Facility.

NCDC manages, operates, and maintains facilities, systems, and equipment necessary to provide requisite communications for the Telecommunications Command, the Operational Control, and the Naval Administration. NCDC also maintains recreational and housing facilities in support of the Naval District Washington (NDW). At the time of the EBS, the majority of the installation was occupied by NCDC. Other on-site tenants include the Joint Interoperability Test Center (JITC), the Naval Criminal Investigative Service (NCIS), the Naval Computer and Telecommunications Station - Washington (NCTS-W (N91 and N3)), the U.S. Army Navy-Marine Corps Military Affiliate Radio System (MARS) NCTS-W (N3), as well as the Prince George's County Fire and Rescue Training Academy.

The EBS was based on a review of information provided by the Facilities Department and the Environmental Protection Specialist of NCDC; reasonably ascertainable historical records and maps; Federal, State, and local regulatory agency records; interviews with current employees at NCDC, owners and operators of the adjacent properties, and selected local government agency representatives; and a visual inspection of the installation and neighboring properties. The EBS addresses storage, release, treatment, or disposal of hazardous substances or petroleum products on the property to determine or discover the

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## U.S. Naval Communications Detachment - Cheltenham, Maryland

### Environmental Baseline Survey

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GCL

presence, or likely presence, of a release or threatened release of any hazardous substance or petroleum product.

The EBS identified "uncontaminated properties," defined under CERFA as any real property on which no hazardous substances or petroleum products, or their derivatives, were stored for one year or more, no known or suspected releases of hazardous substances or petroleum products have occurred, and no disposal of hazardous substances or petroleum products has occurred. The remainder of the installation properties (i.e., "contaminated properties") were classified as properties not requiring remedial action, properties where required remedial action has been taken, and properties requiring remedial or other action. In addition, the EBS identified properties adjacent to the installation with known or suspected releases of hazardous substances or petroleum products.

Properties identified as uncontaminated are located around the perimeter of the installation and include recreational facilities, outlying wooded areas, and an area adjacent to the segment of Redman Avenue that is southeast of Stone Court, north and west of Building 64, and north and east of Building 50. Of the remaining properties, eight areas were identified as not requiring remedial action, 11 areas were identified where remedial action has been conducted and no further action is required, and the following five areas were identified as requiring remediation:

- Building 2 Area - In this area, boiler clean-out wastewater is discharged to sewer lines that are reported to be in poor condition, resulting in a potential impact on the subsurface. Subsurface conditions in the areas adjacent to the sewer lines should be evaluated.
- Building 1 Area - Substation 1 and Cooling Tower Area - A confirmed release of polychlorinated biphenyls (PCB)-contaminated transformer oil occurred in this area in 1990, impacting a concrete pad and adjacent soil. Although the transformer was repaired quickly, GCL did not see follow-up information documenting the remediation of the soil and concrete and confirmation sampling; GCL reviewed the hazardous waste manifest prepared for the disposal of media affected. According to Mr. Ridgeway, the area of the PCB release has been adequately remediated.

In 1992, an unspecified amount of descalant used to treat cooling tower water was also released in this area. The impact of the descalant release on the subsurface should be evaluated.

## **U.S. Naval Communications Detachment - Cheltenham, Maryland Environmental Baseline Survey**

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*GCL*

- Water Tower 7 Area - Lead contamination has been detected in the surficial soils of this area. Lead-contaminated soil should be remediated.
- Water Tower 107 and Building 108 Area - Lead contamination has been detected in the surficial soils of this area. Lead-contaminated soil should be remediated.
- Former Landfill/Burn Site - Although this area is no longer part of the installation, the Navy could be held responsible for contamination from this potential source. Soil and groundwater should be sampled to confirm no adverse impact to the environment.
- Building 31 - Piping was identified adjacent to the elevated concrete slab but the purpose of the piping could not be determined; therefore, the area should be investigated.

In addition, to the specific areas identified above, a base-wide asbestos survey should be conducted to identify friable asbestos-containing material (ACM) and all confirmed friable ACM should be removed from operational, housing, and recreational facilities. Housing units to be inhabited in the future should be surveyed for the presence of lead-containing paint and lead abatement should be conducted, as appropriate. Paint in operational buildings should also be evaluated if renovation activities will impact painted surfaces.

Of the three adjacent properties, the DoE Maryland Relay Site and the Cheltenham Wetlands Park were identified as having no known or suspected releases of hazardous substances or petroleum products. Information obtained from the Maryland Department of the Environment (MDE) indicated that documented releases have occurred from two underground storage tanks (USTs) containing Number 2 fuel oil at the Boy's Village of Maryland/Cheltenham Youth Facility property. However, it appears these releases will not have an adverse impact on environmental conditions at NCDC.

Of the neighboring properties within a two-mile radius of NCDC, one property was listed on the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) and identified as a potential hazardous waste site, one property was identified as a large quantity generator of hazardous waste, two properties were identified as small quantity generators of hazardous waste, and 20 properties were identified as UST sites. One additional neighboring property was identified as a site formerly used to dispose of sewage sludge in trenches. It appears none of these properties pose a potential adverse environmental impact on NCDC.

## **U.S. Naval Communications Detachment - Cheltenham, Maryland Environmental Baseline Survey**

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### **2.0 Purpose and Scope of the Environmental Baseline Survey**

GCL was retained by the Department of the Navy, EFA CHES to conduct a base-wide EBS of the Naval Communication Detachment-Cheltenham (NCDC) located in Cheltenham, Maryland (Figure 2-1), hereafter referred to as the site.

An EBS is conducted by the Department of Defense (DoD) as a component to implement the CERFA, as it amends Section 120(h) of CERCLA for identifying and documenting all uncontaminated real property, or parcels thereof, at installations undergoing closure or realignment. The purpose of the EBS is to compile information regarding environmental conditions of the base property; document the nature and extent of environmental contamination on the installation; and identify uncontaminated and potentially contaminated on-base and adjacent parcels. "Uncontaminated property" is defined by CERFA as any real property on which no hazardous substances and no petroleum products or their derivatives, including aviation fuel and motor oil, were stored for one year or more, or are known to have been released or disposed of.

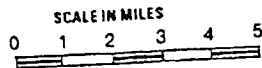
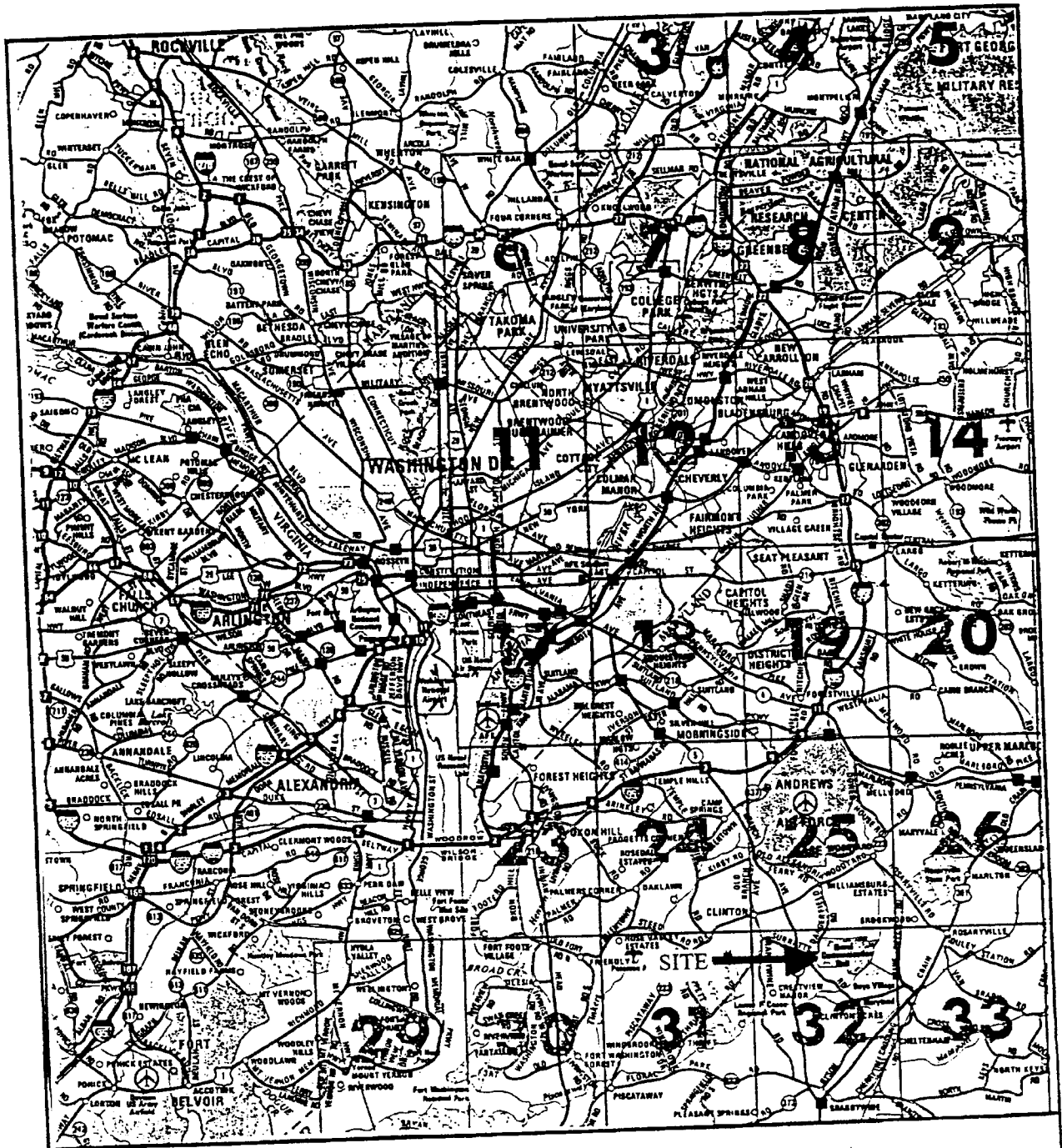
The scope of the EBS for the on-base properties includes the following:

- Comprehensive records review
- Site reconnaissance including physical and visual land inspections and walk-through inspections of structures
- Interviews with operators, neighbors, and regulators, where appropriate
- Title search

The scope of the EBS for the adjacent properties also includes the above-referenced tasks with the exception of title searches.

### **2.1 Property Location and Boundaries**

NCDC is located in Cheltenham, Prince George's County, Maryland. The site can be located on the United States Geological Survey (USGS) Brandywine and Upper Marlboro Quadrangles 7.5 Minute Series topographic maps, dated 1978, at longitude 76° 51' 30" west and latitude 38° 45' 00" north (Figure 2-2). The site consists of 230.29 acres known as the "core base" which includes property leased to the Prince George's County Government,



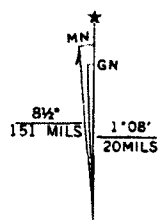
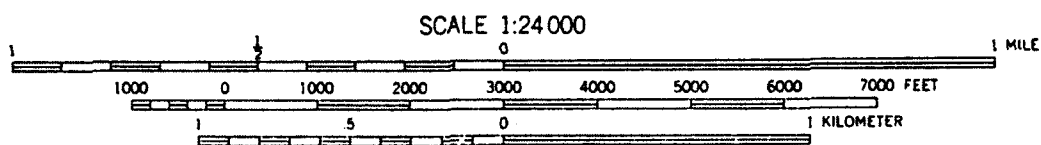
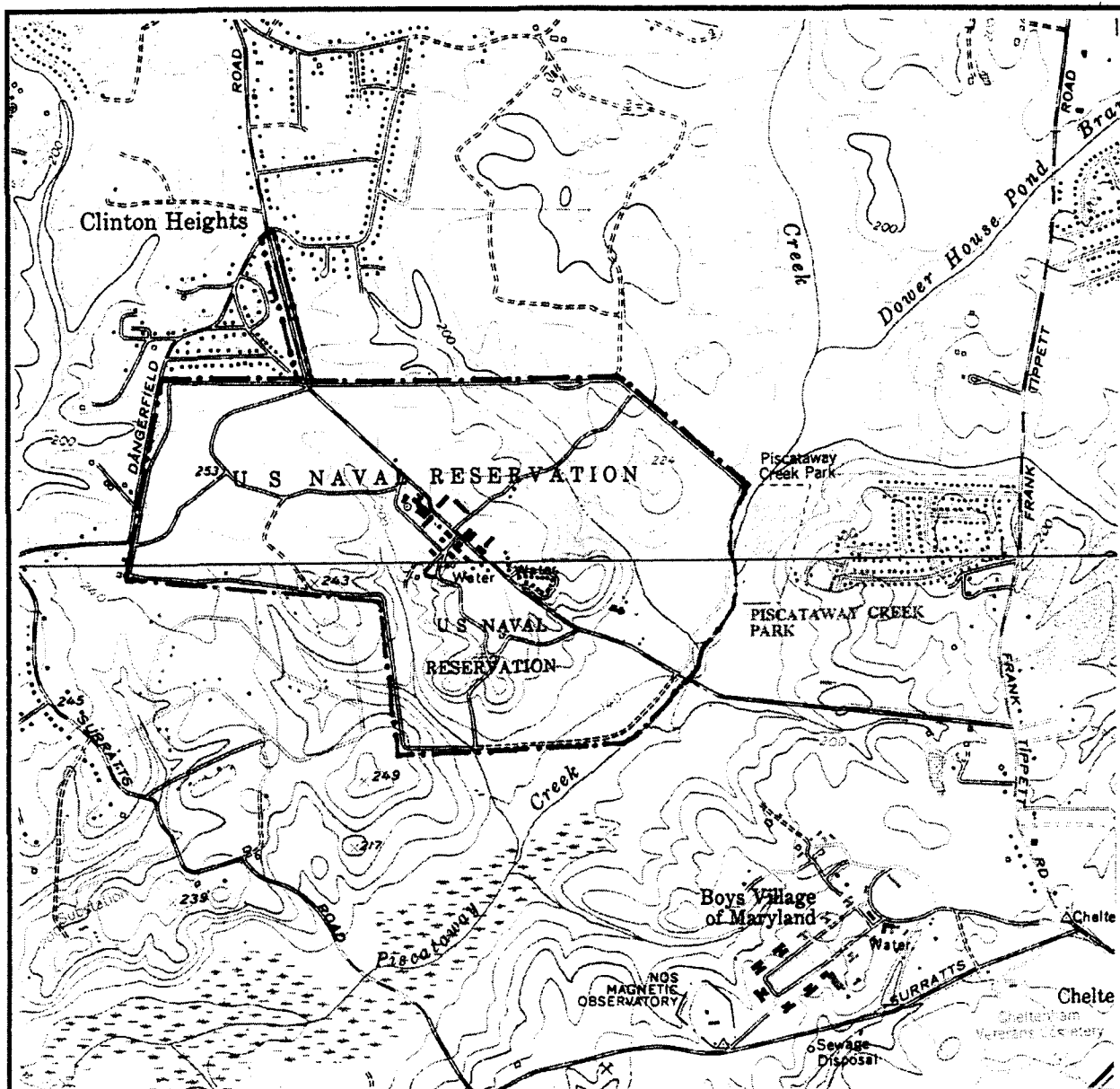
ADC Street Map of Prince George's County

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FIGURE 2-1  
SITE LOCATION MAP





U.S.G.S. Brandywine, MD and Upper Marlboro, MD Quadrangles

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FIGURE 2-2  
SITE TOPOGRAPHIC MAP

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## **U.S. Naval Communications Detachment - Cheltenham, Maryland Environmental Baseline Survey**

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Office of the Fire Chief for use by the Fire and Rescue Training Academy. NCDC is bounded to the west by the Department of Energy (DoE) Maryland Relay Site which consists of 124.27 acres; and to the north, east, and south by 208.92 acres of property owned by Prince George's County. This property consists of a wetlands area known as Cheltenham Wetlands Park and two access roads northwest and southeast of the facility, which are designated as Commo Road. The northern leg and north of the southeastern leg of Commo Road are bordered by single-family residential homes. Boy's Village of Maryland, a State-operated detention facility, is also located adjacent to the southeastern leg of Commo Road (Figure 2-3).

### **2.2 Site Description**

NCDC supports the communications mission of the Department of the Navy. NCDC provides regional communications (local Digital Message Exchange, Personal Computer Message Terminal, Multi-level Mail Server, Newsdealer), and automated information systems support and services to metropolitan Washington and northeastern United States, Department of Defense (DoD), and Department of Transportation (DoT) activities. NCDC maintains recreational and housing facilities in support of the Naval District Washington (NDW).

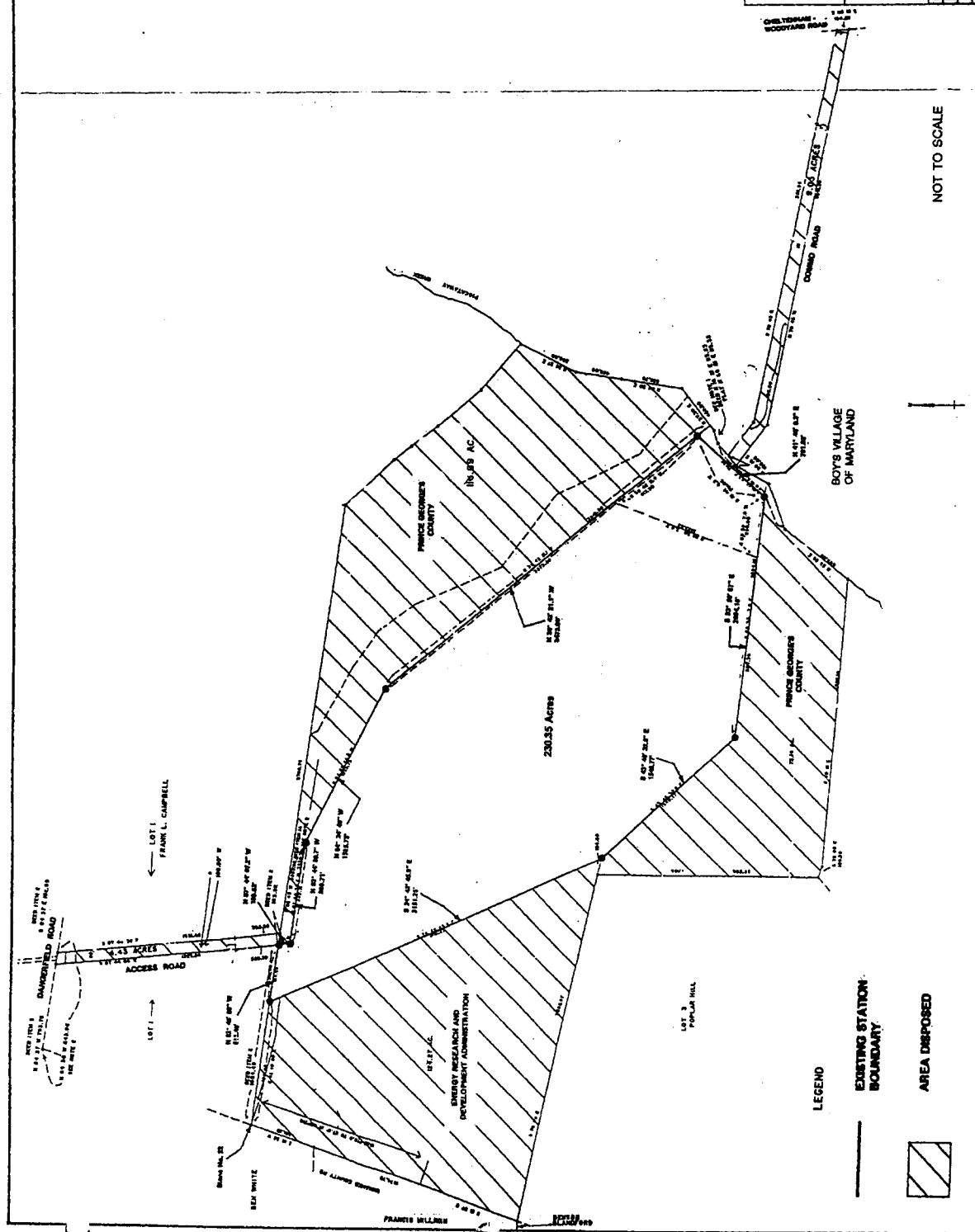
The majority of the installation was occupied by NCDC at the time of the survey; however, other tenants on-site include the Joint Interoperability Test Center (JITC), the Naval Criminal Investigative Service (NCIS), the Naval Computer and Telecommunications Station - Washington (NCTS-W (N91) and NCTS-W (N3)), and the U.S. Army Navy-Marine Corps Military Affiliate Radio System (MARS) NCTS-W (N3). Also included within the site, as a leased property located at the southeast end of the base, is the Prince George's County Fire and Rescue Training Academy. Figure 2-4 is a site plan that illustrates significant structures.

Site improvements to the base consist of buildings, shelters, roads, parking lots, single- and double-family homes, apartment buildings, and a variety of recreational facilities (Figure 2-4). Tables 2-1, 2-2, and 2-3 list the operational buildings, housing units, and recreational facilities located at NCDC, including the approximate square footage, current and historic building use, construction dates, materials used during construction, and types of heating and cooling systems.



**FIGURE 2-3**  
**REAL ESTATE SUMMARY MAP**

CLIENT: NAVY	REVISION NO.: 3
DATE: 11/07/94	DRAWN BY: TSH
AUTHOR: MAH	FILE: 0007
CHECKED: VLN	



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100



100 TO SCALE

LEGEND	
RECREATION FACILITIES HOUSES	RECREATION FACILITIES HOUSES

NOTE: 100 TO SCALE  
 100 TO SCALE  
 100 TO SCALE  
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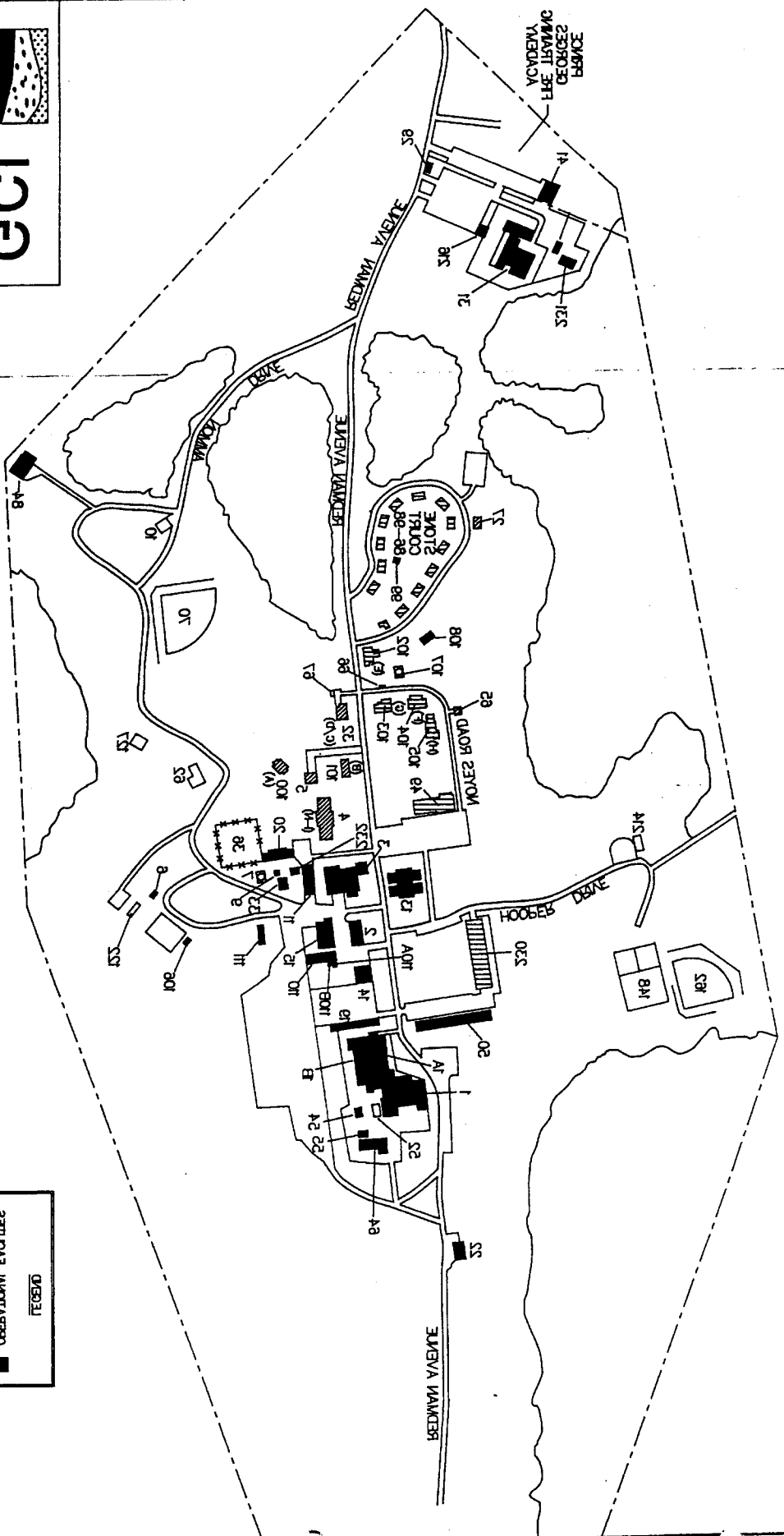


Table 2-1  
NCDC On-Base Operational Buildings and Structures

Building Number	Current Building Use	Historic Building Use (If different from current use)	Size	Year Constructed	Roof Type	Heating and Cooling Systems
1/1A/1B	Administration/Research		63,410 sq. ft.	1938	Slate, Built-up	Electric A/C, (chiller system) HTHW Heat
2	Heating Plant, Electric Power Plant		3,485 sq. ft.	1936	Built-up	None
3	Dining Facility	Administration Club	16,486 sq. ft.	1938	Slate, Built-up	Electric A/C, (chiller system) HTHW Heat
7	Water Storage Tank		100,000 gallons	1938	N/A	N/A
9	Water Pump Station		60 sq. ft.	1985	Block	None
11	Warehouse		2,573 sq. ft.	1941	Asphalt	Electric Heat
13	Special Services <sup>1</sup>	Special Services <sup>2</sup>	21,163 sq. ft.	1941	Slate	Electric A/C, HTHW Heat
14	Public Works Shops <sup>3</sup>	Public Work Shops <sup>4</sup>	2,408 sq. ft.	1941	Built-up	Electric A/C, HTHW Heat
15	Vehicle Maintenance/Fire Station, Safety Office		4,067 sq. ft.	1941	Asphalt shingle	Electric A/C, HTHW Heat
19	Office	Chapel, Office, Laboratory	3,365 sq. ft.	1951	Metal w/foam	Kerosene oil-fired furnace, electric heat
20	Storage		*****No Information Provided*****			
22	Gas Station/Supply		715 sq. ft.	1951	Built-up	Electric Heat
29	Gate House					
31	Administration	NAVTASC	30,285 sq. ft.	1947	Asphalt shingle, Built-up	Oil-fired heat, Electric A/C
33	Supply/Storage	Supply of ice and storage	1,176 sq. ft.	1947	Metal	Gas-fired furnace
40	Warehouse	Former power plant	928 sq. ft.	1951	Built-up	N/A
41	Prince Georges County Fire and Rescue Training		*****No Information Provided*****			
50	Administration	Security, Administration and Barber Shop	20,481 sq. ft.	1958	Built-up	HTHW Heat, Electric A/C
54	Radio Tower					
55	Communication Control Link	Microwave Link/Public Works Storage	700 sq. ft.	1954	Built-up	Electric Heat
64	Generator Building, UPS System	Generator Building	3,080 sq. ft.	1959	Metal, Built-up	HTHW Heat
84	NISC RF Comm.	Receiver Building	2,175 sq. ft.	1957	Built-up	Electric heat, A/C
85	Gate House	Gate House	80 sq. ft.	1979	Flat metal	Electric Heat
99	Meter/Power Room		88 sq. ft.	1947	Concrete	N/A
107	Water Storage Tank		100,000 gallons	1959	N/A	N/A
108	Water Treatment Facility	Water Pump Station	169 sq. ft.	1951	Metal	HTHW Heat
110	Public Works Tool and Supply Storage	Public Works Expendable Warehouse	960 sq. ft.	1960	Metal	HTHW Heat
111	Warehouse	Warehouse	2,016 sq. ft.	1960	Metal	N/A
215	Fire Chief Office	Public Works Gas Pump	-	1964	Concrete	HTHW Heat
216	Gate House at B-31		135 sq. ft.	1964	Concrete	N/A
231	Storage Facility		1,376 sq. ft.	1969	Built-up	Electric Heat, A/C
232	General Warehouse	Public Works Storage	320 sq. ft.	1958	Metal	N/A

Notes:

"Built-up" typically refers to a flat roof construction consisting of a basal felt layer overlain by tar and gravel

HTHW is high temperature hot water heat produced by boiler system

N/A is Not applicable

A/C is Air Conditioning

<sup>1</sup>Special Services which currently include theater, bowling alley, cleaning services, and other special services

<sup>2</sup>Special services which historically include theater, library, bowling alley, dental, chaplin's office and other special services

<sup>3</sup>Public Works Shops which currently exist include offices, carpentry and pipe fitting shops, and paint and chemical storage

<sup>4</sup>Historically the Public Works Shops maintained the same operations as presently; however the current paint storage was historically a painting area

Table 2-2

## NCDC On-Base Housing Facilities

Building Number	Current and Historic Building Use	Size (square feet)	Year Constructed	Roof Type	Heating and Cooling Systems
4	Married Enlisted Quarters I, J, K, L, M, N (apartments)	7,500	1938	Slate	HTHW
5	Garage A and B	726	1938	Asphalt shingles	N/A
27	Laundry and Storage (housing)	800	1943	Asphalt	Oil-fired furnace
32	Married Officers Quarters C and D	3,272	1946	Slate	HTHW
49	Bachelor Officers Quarters	2,768	1950	Built-up	Oil-fired furnace, Electric A/C
65	Garage G and H	528	1957	Asphalt shingles	N/A
66	Garage E and F	528	1957	Asphalt shingles	N/A
67	Garage C and D	528	1957	Asphalt shingles	N/A
86	Quarters 1	812	1941	Asphalt shingles	Oil-fired furnace
87	Quarters 2 and 3	1,470	1941	Asphalt shingles	Oil-fired furnace
88	Quarters 4 and 5	1,470	1941	Asphalt shingles	Oil-fired furnace
89	Quarters 6 and 7	1,470	1941	Asphalt shingles	Oil-fired furnace
90	Quarters 8 and 9	1,470	1941	Asphalt shingles	Oil-fired furnace
91	Quarters 10 and 11	1,470	1941	Asphalt shingles	Oil-fired furnace
92	Quarters 12 and 13	1,470	1941	Asphalt shingles	Oil-fired furnace
93	Quarters 14 and 15	1,470	1941	Asphalt shingles	Oil-fired furnace
94	Quarters 16 and 17	1,470	1941	Asphalt shingles	Oil-fired furnace
95	Quarters 18 and 19 (18)	1,470	1941	Asphalt shingles	Oil-fired furnace
96	Quarters 20 and 21 (19 and 21)	1,470	1941	Asphalt shingles	Oil-fired furnace
97	Quarters 22 and 23 (20 and 22 and 23)	1,470	1941	Asphalt shingles	Oil-fired furnace
98	Quarters 24 and 25	1,470	1941	Asphalt shingles	Oil-fired furnace
100	Married Officer's Quarters A	3,818	1937	Slate	HTHW
101	Married Officer's Quarters B	2,203	1937	Slate	HTHW
102	Married Officer's Quarters E	1,512	1950	Asphalt shingles	Oil-fired furnace
103	Married Officer's Quarters F	1,232	1950	Asphalt shingles	Oil-fired furnace
104	Married Officer's Quarters G	1,232	1950	Asphalt shingles	Oil-fired furnace
105	Married Officer's Quarters H	1,232	1950	Asphalt shingles	Oil-fired furnace
230	Bachelor Enlisted Quarters <sup>1</sup>	64,372	1969	Built-up	HTHW/Electric A/C

## Notes:

HTHW is high temperature hot water heat produced by boiler system

"Built-up" refers to a flat roof construction consisting of a basal felt layer overlain by tar and gravel

N/A is not applicable

A/C is air conditioning

<sup>1</sup>Historically Building 230 was designated as the Bachelor Enlisted Quarters; however, currently it is referred to as the Enlisted Quarters

Table 2-3

## NCDC On-Base Recreational Buildings and Structures

Building Number	Building Use	Historic Building Use (If different from the current use)	Size (square feet)	Year Constructed	Roof Type	Heating System
6	Valve House		63	1938	Concrete	Electric Heat
10	Boy Scouts	Community Building	576	1941	Asphalt Shingle	Electric Heat
36	Tennis Courts (2)		-	1942	N/A	N/A
56	Volleyball Court		7,200	-	N/A	N/A
62	Picnic Shelter	Concrete Pad	900	1951	N/A	N/A
70	Softball Field		43,260	1942	NA	N/A
79	Ladies' Lockerroom	Ladies' Bath House	224	1943	Asphalt shingles	N/A
106	Valve House		63	1994	Concrete	N/A
122	Not Used	Water Filter Plant-Pool	322	1956	Concrete	Electric Heat
127	Public Facilities		216	1960	Salvage Edge	N/A
148	Basketball Courts (2)		20,700	1952	N/A	N/A
161	Dance Pavilion		4,410	1963	Metal	N/A
162	Softball Field		90,000	1962	N/A	N/A
210	Picnic Shelter		-	1983	N/A	N/A
214	Storage and Wash Rack	Auto Hobby Shop and Wash Rack	2,204	1969	Built-up	Oil-fired Heat
217	Men's Locker Room	Men's Bath House	224	1943	Asphalt shingles	N/A
218	Pavilion with Shelter	Refreshment Stand	200	1964	Built-up	N/A
229	Picnic Shelter		720	1968	Metal	N/A
233	Picnic Shelter		392	1969	Metal	N/A
234	Picnic Shelter		360	1969	Metal	N/A
235	Picnic Shelter		350	1969	Metal	N/A
236	Picnic Shelter		180	1969	Metal	N/A

## Notes:

"Built-up" typically refers to a flat roof construction consisting of a basal felt layer overlain by tar and gravel

N/A is not applicable

**U.S. Naval Communications Detachment - Cheltenham, Maryland**  
**Environmental Baseline Survey**

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Site improvements for the Fire Training Academy area consist of an administration building; two permanent classroom trailers; a quonset hut; several semi-permanent storage trailers; three parking areas with driveways; walkways around the property; a repelling tower; and a building used for fire fighting training, called the "burn building."

The utilities provided to NCDC and the Fire Training Academy include electricity supplied by Potomac Electric Power Company (PEPCO), water from two approximately 350-foot deep wells on-site, and sewer by Washington Suburban Sanitary Commission (WSSC). Sewage is routed for treatment to the Blue Plains Treatment Facility. Heat in the majority of the buildings along Redman Avenue is generated with high temperature hot water (HTHW) provided by the boilers located in Building 2. Heat for the outlying facilities is generated using oil-fired furnaces and electricity (see Tables 2-1, 2-2, and 2-3).

County Assessor records show that the core base is owned by the United States of America and is zoned EC, commercial property with an exemption from County and State tax assessments, since it is a military installation.

Site vegetation consists of grasslands, wooded areas, and wetlands located at the perimeter of the core base.



## U.S. Naval Communications Detachment - Cheltenham, Maryland

### Environmental Baseline Survey

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#### 3.0 Survey Methodology

The investigation was based on a review of information provided by the Facilities Department and the Environmental Protection Specialist of NCDC; reasonably ascertainable historical records and maps; Federal, State, and local regulatory agency records; interviews with current employees at NCDC, owners and operators of adjacent properties, and selected local government representatives, as appropriate; and a visual inspection of the property and neighboring properties. GCL investigated the site and adjacent areas to determine the presence or likely presence of a release or threatened release of any hazardous substance or petroleum product on the subject property or adjacent properties. A list of information sources utilized during the EBS is provided in Appendix A.

#### 3.1 Approach and Rationale

The approach for conducting the EBS includes the elements specified in the Scope of Work prepared by the Department of the Navy, EFA CHES and dated May 17, 1994, CERFA, and the DoD policy on the implementation of CERFA. The EBS addresses storage, release, treatment, or disposal of hazardous substances or petroleum products on the property to determine or discover the presence, or likely presence, of a release or threatened release of any hazardous substance or petroleum product.

#### 3.2 Documents Reviewed

##### 3.2.1 Information Provided by the Client

GCL reviewed miscellaneous historic and environmental documents and files provided by NCDC personnel, such as site plans, underground/aboveground storage tank removal documentation, hazardous waste manifests, site historical information, and other pertinent documents and files, including the title search for the property provided by the Department of the Navy, EFA CHES. GCL also interviewed NCDC and Fire Training Academy staff regarding site history and present operations.

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## U.S. Naval Communications Detachment - Cheltenham, Maryland

### Environmental Baseline Survey

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#### 3.2.2 *Published Information*

GCL reviewed various maps and reports to obtain information regarding the physical properties of the site and to discover whether any known environmental liabilities are associated with the site. Local zoning records, tax maps, and other documentation were reviewed by GCL and discussed with representatives of the Prince George's County Tax Assessor's Office. Aerial photographs, a common source used for tracking site histories and historical uses, were also reviewed. Sanborn Fire Insurance Rate Maps were not available for the site.

#### 3.2.3 *Environmental Agency Records and Files*

GCL conducted a review of Federal, State, and local environmental agency listings of properties in the site vicinity that were likely to manage hazardous, toxic, or petroleum substances that could potentially impact the site. This review process involved the solicitation of Environmental Risk Information and Imaging Services, Inc. (ERIIS), a regulatory data base search company, to provide information contained in various Federal and State of Maryland data bases. The following lists were reviewed:

- Facility Index Systems (FINDS) - A computer inventory of all facilities regulated or tracked by the Environmental Protection Agency (EPA)
- Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) - A comprehensive list of identified potentially hazardous sites nationwide used by EPA to track activities at sites
- National Priorities List (NPL) - A prioritized list, compiled by EPA, of sites that pose a risk to human health and the environment by virtue of the fact that they received a certain score using EPA's Hazard Ranking System
- Emergency Response Notification System (ERNS) - A listing of hazardous material spill incidents reported to the U.S. Department of Transportation during 1993
- Resource Conservation and Recovery Information System (RCRIS) - A list of select information on over 324,000 sites which generate, transport, store, treat, and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA)

**U.S. Naval Communications Detachment - Cheltenham, Maryland**  
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- Civil Enforcement Docket - EPA's system for tracking civil judicial cases filed on the agency's behalf by the Department of Justice; the Docket contains information on civil cases dating from 1972 to the present
- Toxic Release Inventory System (TRI) - EPA's system for tracking industrial releases and/or transfer of toxic chemicals that are reportable under Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA)
- United States Nuclear Regulatory Commission Report (NUCLEAR) - A listing of all licensed and active nuclear power plants in the United States
- Open Dumps Report (OPENDUMP) - An EPA listing of facilities or sites where solid wastes are disposed of but which are not sanitary landfills or facilities for the disposal of hazardous waste
- Solid Waste Facilities (SWF) - A listing of all permitted solid waste landfills and processing facilities operating in the State of Maryland
- Maryland Notice of Potential Hazardous Sites (HWS) - Sites considered by the Maryland Department of the Environment (MDE) to be a threat to the public health and welfare
- Registered Underground Storage Tanks (USTs) - Listing of registered USTs within a two-mile radius of the site, using the data base from the State of Maryland

The ERIIS data base information is included in Appendix B.

Freedom of Information Act (FOIA) requests were made regarding the NCDC site and neighboring properties to the following agencies:

- EPA
- MDE, Division of Hazardous Waste
- MDE, Waste Management Administration
- Prince George's County Health Department, Office of Environmental Issues
- Bureau of Fire Prevention, Special Hazards

## **U.S. Naval Communications Detachment - Cheltenham, Maryland Environmental Baseline Survey**

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- Prince George's County Fire Department
- Maryland Department of General Services
- Maryland Environmental Service (MES)
- WSSC

The FOIA requests and responses received to date are included in Appendix C.

### **3.3 Field Reconnaissance**

GCL conducted inspections of the on-base properties including operational buildings, shelters, housing units, recreational facilities, and the Prince George's County Fire and Rescue Training Academy, currently leased to the Prince George's County Government, Office of the Fire Chief. GCL also conducted site walk-throughs and visual inspections of properties located immediately adjacent to the core base of NCDC including the DoE Maryland Relay Site, the Cheltenham Wetlands Park, residential developments, and the Boy's Village of Maryland. Field Reconnaissance Checklists are included in Appendix D.

### **3.4 Interviews**

GCL prepared a comprehensive questionnaire which was utilized during the interviews. Several employees, adjacent facility operators and owners, and a representative of MDE were interviewed formally and informally to obtain information pertinent to the EBS. The interviewees include the following:

- Mr. Ken Ridgeway - Environmental Protection Specialist, NCDC since 1988
- Mr. Larry Deal - Supervisor/Planner/Estimator, NCDC since 1978
- Mr. W. Mike Harley - Maintenance Worker, NCDC since 1969
- Mr. Al Taylor - Planner/Estimator, NCDC since 1975
- Mr. Earl Goldsmith - Carpenter, NCDC since 1977
- Mr. Carl Harley - Maintenance Worker, NCDC since 1965

**U.S. Naval Communications Detachment - Cheltenham, Maryland**  
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- Mr. Jeff Marshall - MDE
- Major Larry Preston - Prince George's County Fire and Rescue Training Academy
- Captain Lisa Dunaway - Prince George's County Fire and Rescue Training Academy
- Mr. Art Taylor - EG&G (DoE Site Manager)
- Ms. Jane Griegl - DoE
- Mr. Chris Wagnon - Maryland National Capital Park and Planning Commission (MNCPPC)
- Mr. Ahmad Razik - MES
- Ms. Melanie Frish - Prince George's County Parks and Recreation Department
- Ms. Anne Williams - Prince George's County Health Department

The completed interview questionnaires and interview summaries are included in Appendix E.

## U.S. Naval Communications Detachment - Cheltenham, Maryland Environmental Baseline Survey

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### 4.0 Summary of Data (On-Base Properties)

#### 4.1 History and Current Usage

Information regarding the historical use of the site was obtained through review of historical information supplied to GCL by the Navy and several aerial photographs.

##### 4.1.1 Land Ownership

The real estate documentation supplied by the Department of the Navy, EFA CHES yielded the following information:

- The U.S. Government took title of 559.05 acres of land from G. Irene Tippet and P. Frank Tippet, by deed, on September 20, 1935. This property was known as the "Tippet Farm" prior to being sold to the U.S. Government.
- The U.S. Government took title of 4.43 acres, by deed, from Frank L. Campbell, on January 22, 1945.
- Title of 124.27 acres was transferred to the U.S. Department of Energy on April 1, 1977.
- Prince George's County took title of 208.92 acres on June 16, 1980

Easements to the property were granted to the following parties for the listed dates:

- January 22, 1943 - Frank Campbell
- December 15, 1967 - Prince George's County for improvement of Tippet Road
- April 29, 1968 - Perpetual to Washington Sewer and Sanitary Commission for a sewer line
- December 22, 1971 - Perpetual to Washington Sewer and Sanitary Commission for a sewer line

## U.S. Naval Communications Detachment - Cheltenham, Maryland Environmental Baseline Survey

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- September 13, 1974 - Washington Sewer and Sanitary Commission and Clinton Properties for a storm drain

Appendix F includes the land ownership information provided to GCL by EFA CHES.

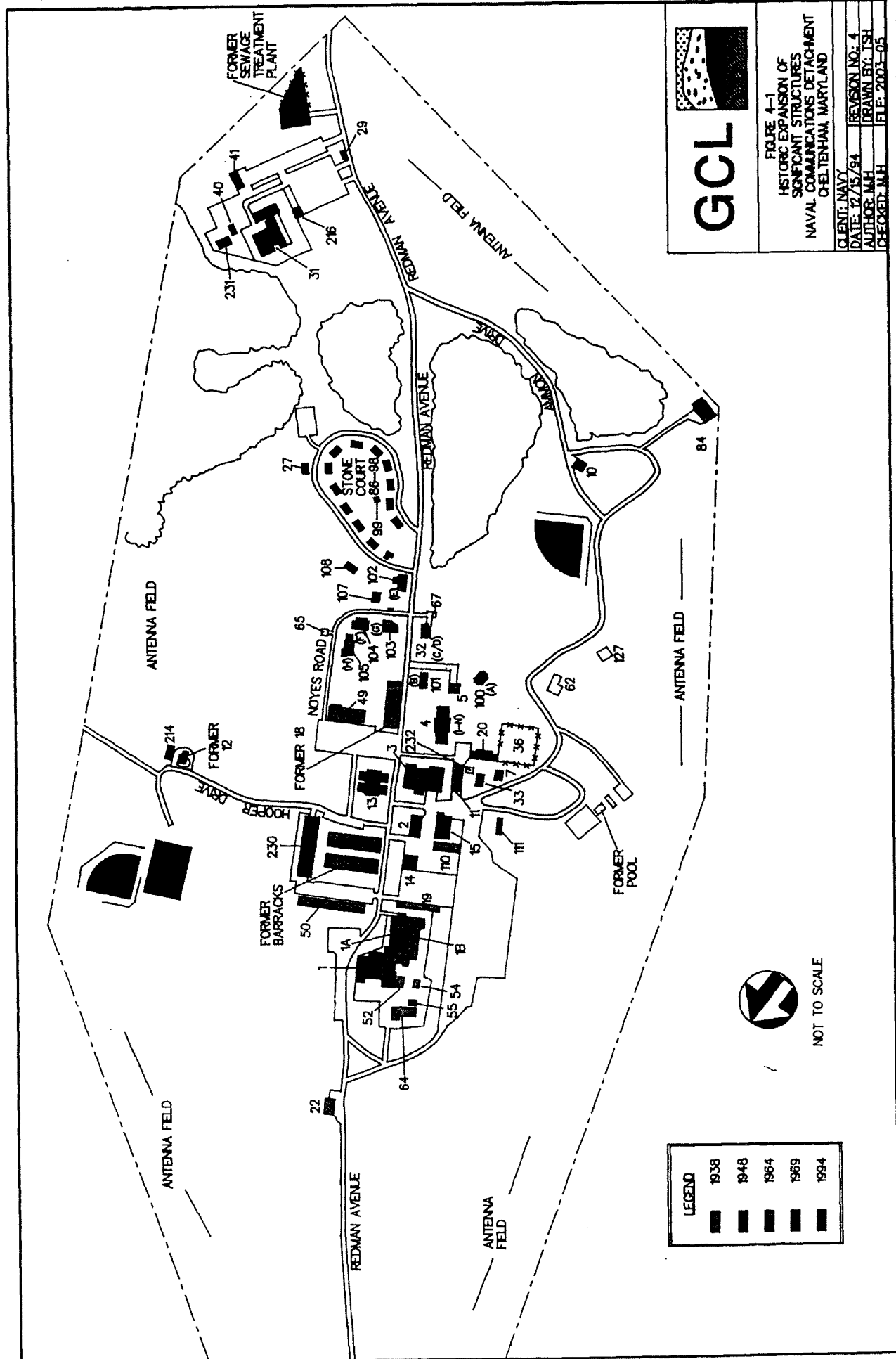
### *4.1.2 Review of Aerial Photographs*

A 1938 aerial photograph shows evidence of construction of the radio station as the areas north, west, and northeast of Building 1 were scoured. The scouring of the land surface is assumed to be the result of clearing activities to provide access for the installation and maintenance of the antennae. The southeastern segment of Redman Avenue was constructed; however the northwestern segment of Redman Avenue does not appear to be fully constructed. The area surrounding the radio station consisted predominately of farm land and an occasional farm house. Buildings 1, 2, 3, 4, 5, 100, and 101 were observed in the 1938 photograph (Figure 4-1).

An aerial photograph from 1948 shows improvements on the site including Redman Avenue; the original section of Building 1; the public works complex, including Buildings 2, 14, and 15; the original two-story section of Building 3; Building 13; the former hobby shop (Building 12); the original portion of Building 31; a sewage treatment system which was the precursor to the wastewater treatment plant located near Building 31; and housing unit Buildings 100, 101, and 31 (Quarters A through D); housing unit Building 4 (Quarters I through N); and housing unit Buildings 86 through 98 (Quarters 1 through 25). Figure 4-1 illustrates buildings and structures located at NCDC in 1948.

Ammon Drive did not exist in 1948, and a dirt road from Quarters C and D crossed over the present softball field to Building 10. The dirt road network dead ends into various small areas the use of which cannot be identified in the photograph.


A low oblique photograph of NCDC was reviewed. The photograph was dated approximately 1964, based on the infrastructure present and corresponding dates of construction provided by the Navy. The photograph shows the construction of additional buildings along Redman Avenue, including Buildings 50, 19, 18, and 49, and two barracks (not numbered and demolished before 1969); the additions to Buildings 1, 3, and 31; Building 84 located next to the landfill; Quarters E through H on Noyes Road; and the sewage treatment plant. The surrounding Navy land is peppered with antennae (former antennae fields); vegetation around the poles is mainly grasses.



**LEGEND**

■	1938
■	1948
■	1964
■	1969
■	1994





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**FIGURE 4-1**  
**HISTORIC EXPANSION OF**  
**SIGNIFICANT STRUCTURES**  
**NAVAL COMMUNICATIONS DETACHMENT**  
**DELTECHAM, MARYLAND**

CLIENT: NAVY	REVISION NO: 4
DATE: 12/15/94	DRAWN BY: JSH
AUTHOR: M.H.	CHECKED: M.H.
	FILE: 2003-05

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## U.S. Naval Communications Detachment - Cheltenham, Maryland

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A color, low oblique photograph of the base was provided by NCDC and reviewed. The photograph was dated to 1969, based on construction information provided by the Navy. The two barracks in front of Building 230 were removed, but the old hobby shop, Building 12, was still present. The remainder of the facility did not appear to change in the five years between 1964 and 1969.

The most recent aerial photograph reviewed was a 1994 color photograph, illustrating the current facility. Changes since 1969 include the removal of Buildings 12 and 18 and the swimming pool (Structure 17). The pool was not visible in any of the oblique photographs due to coverage by the trees. Wetlands, present in photos dated 1948, 1964, and 1969 and transferred to Prince George's County in 1980, are now wooded. It is apparent that the area was free of trees and an abundance of vegetation as the Navy previously maintained the area for access to the antennae. The Prince George's County Fire and Rescue Training Academy is now located at the site of the former sewage treatment plant present in the 1964 and 1969 photographs. The DoE portion of the site is a wooded area with two clearings, whereas previously it was an antennae field.

#### *4.1.3 History*

In 1935, a 559.05-acre parcel of property was acquired from Frank Tippet (Tippet Farm) by the United States of America to be used as the Naval Radio Station in Cheltenham, Maryland. The area was conducive to interference-free radio reception due to the lack of development in the area. Interference-free reception was necessary to support the Navy's Washington area activities and early in 1938, the station was put into commission. An additional 4.43 acres was purchased from Frank L. Campbell in 1943 for access to the station from Dangerfield Road.

Prior to World War II, the increasing volume of communications traffic necessitated a substantial increase in activity and personnel. During and following World War II, the station grew steadily but the encroaching development in the surrounding Prince George's County reduced the effectiveness of Cheltenham as a communications receiving site and changes in the primary mission were necessary.

In 1971, a document titled, A Plan for Department of Defense in the National Capital Region, recommended the disestablishment and excessing of the entire Cheltenham site. The General Services Administration (GSA), under the guidelines of Executive Order 11724, surveyed the site in 1973 to consider disposal of all or a portion of the station. GSA identified 333.19 acres outside of the core area that were formerly used as antenna fields and recommended that the land be disposed. This area was transferred to GSA for

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disposal, leaving NCDC with 230.29 acres which currently consists of the core base. Of the 230.29 acres, 20.5 acres along NCDC's southern border was leased for 25 years to the Prince George's County Government, Office of the Fire Chief, on September 1, 1983 and is currently used as the training academy for the Prince George's County Fire Department.

Of the excess 333.19 acres, a 124.27 acre tract was transferred to DoE and the remaining 208.92 acres, which consists of two tracts of land along the northeastern and southern borders of the core base and both segments of Commo Road, were transferred to the Prince George's County Government.

On July 1, 1975, the station was designated as the Naval Communication Unit (NCU), Washington, in conjunction with Navy realignment and consolidation of Fleet High Command. According to Mr. Ridgeway, as a result of Navy downsizing in early 1991, NCU merged with NARDAC Washington to form NCTS Washington and NCDC became a detachment.

### *4.1.4 Current Usage*

NCDC's current mission is to support the communications mission of the Department of the Navy. NCDC provides regional communications (local Digital Message Exchange, Personal Computer Message Terminal, Multi-level Mail Server, Newsdealer) and automated information systems support and services to metropolitan Washington and northeastern United States, DoD, and DoT activities. In addition, NCDC maintains recreational and housing facilities in support of the Naval District Washington (NDW). The on-base facilities which support NCDC can be divided into operations, housing, and recreational facilities.

Several buildings and structures which currently support NCDC operations include public works, administrative, supply, and research and development. Housing at NCDC includes single-family homes, apartments, double-family homes, enlisted quarters, and bachelor officers' quarters. Recreational facilities at NCDC include picnic shelters, softball fields and shed, a hobby shop, tennis courts, a Boy Scouts facility, and volleyball courts. Pool-related recreational facilities (i.e., bathhouses, and public facilities) and ancillary pool equipment and operational facilities, (i.e. two valve houses and housing for the pool filters) also still exist at the facility; however, pool-related activities have not occurred at the site for seven years and the pool was filled in with dirt in 1993. Tables 2-1 through 2-3 and Figure 2-4 depict the above-referenced facilities.

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The Prince George's County Fire Training and Rescue Academy is also included as part of the site as it is owned by the United States of America which is responsible for the operations of the lessor. The County currently leases the property located at the southeast end of the base, which was formerly occupied by the base's wastewater treatment facility. Currently, the Fire Training Academy site is used to train the professional and volunteer firefighters of Prince George's County in fire control and life saving techniques. The mission is accomplished through classroom and hands-on activities using props to simulate emergencies, including fires.

#### 4.2 Environmental Setting

##### 4.2.1 Hydrogeology

The site is located in the Coastal Plain physiographic province at an elevation ranging from approximately 140 to 250 feet above mean sea level (MSL). Quaternary, Tertiary, and Cretaceous-aged strata of continental and marine origin underlie the site and dip slightly to the southeast. The Quaternary units consist of upland deposits which are predominantly gravel and sand. The upland deposits are commonly orange-brown and locally limonite cemented with minor silt and clay. The total thickness of the Quaternary deposits is approximately 50 feet. Tertiary-aged units consist of sediments from the Calvert Formation, which is composed of two member units: the Plum Point Marls Member and the Fairhaven Member. The Plum Point Marls Member consists of interbedded dark green to dark bluish-gray, fine-grained argillaceous sand and sandy clay, containing prominent shell beds and locally cemented sandstones. The Fairhaven Member consists of greenish-blue diatomaceous clay, pale brown to white, argillaceous sand and greenish-blue sandy clay. The total thickness of the Calvert Formation is approximately 150 feet. Beneath these units is the Cretaceous-aged Magothy Formation which consists of loose white, cross-bedded, lignitic sands, and dark gray, laminated silty clays. The total thickness of the Magothy Formation is approximately 60 feet.

The depth to groundwater on the site ranges from approximately 20 to 60 feet. The Quaternary-aged upland deposits contain numerous lenses of water-bearing sand and gravel which are sufficiently interconnected to form good aquifers. The argillaceous units of the Tertiary-aged Calvert Formation yields only limited supplies of groundwater for domestic use. The cross-bedded sands of the Magothy Formation constitute the most important aquifer and source of potable groundwater in Prince George's County.

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### 4.2.2 Soil

The distribution of soil on-site consists of four soil types: Beltsville Series, Bibb Series, Croom Series, and the Iuka Series. The Croom Series is distributed over a greater area of the base than any other. It consists of somewhat excessively drained gravelly soils with a yellowish-brown subsoil which is very gravelly and hard. The Croom Series has developed on deposits of sandy and clayey gravel and these soils have been extensively disturbed by community development. The Croom soils, on-site, have slopes from 15 to 35 percent on all areas where distributed.

The Beltsville Series comprises the second largest distribution of soils on the base. Generally, these soils are well drained and have a thick, compact fragipan in the lower subsoil. The Beltsville Series identified on the site has been severely disturbed by community development and have been rearranged into complex patterns. The surface layer has a variable texture that may be fine sandy loam, silt loam, or a mixture of sand, silt, and clay in any proportion. Approximately 60 percent of these soils have had 18 inches of the surface layer either covered with other soil material or removed.

The Bibb Series was identified in a limited southeastern segment on the base adjacent to the Piscataway Creek. The Bibb Series is described as a level to nearly level, poorly drained soil, consisting of silts and sands that have been recently deposited by streams and drainageways. Sandy loam is the dominant soil identified on the base. It has a surface layer approximately three feet thick and fairly good drainage.

Soils on the base classified as the Iuka Series are moderately sloping to nearly level and fairly well drained. The Iuka Series is derived from silty sandy upland areas and alluvial materials are the source of these soils identified on the base. In general, approximately 25 percent of the Iuka soils have a sandy loam or silt loam surface layer.

### 4.2.3 Wetlands

According to the U.S. Department of the Interior, Fish and Wildlife Service Wetlands Inventory map, dated April 1981, there are limited areas on-site that are classified as wetland areas. Wetlands are defined as regions of transition between terrestrial and aquatic ecological systems where the water table is usually near or at the land surface. Wetlands are delineated along the southeastern and southwestern perimeter of the site adjacent to Piscataway Creek, which never intersects the base property. These wetland areas are classified in the palustrine ecological system, forested with broad-leaved deciduous vegetation, in a water regime that is temporary and non-tidal. The area along the interior

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of the eastern perimeter of the site is also classified in the palustrine ecological system; however, the vegetation is described as shrubs that are broad-leaved and deciduous.

### 4.2.4 Topography

The topography of the base ranges in elevation from 240 feet above MSL at Building 1 to 160 feet above MSL at the training facility; the main facility operations area lies at an elevation of approximately 220 feet above MSL. The topography of the area slopes toward the southeast in the direction of the Piscataway River.

The topography in the subject area consist of moderate relief with the majority of the NCDC site sloping toward the southeast. Two unnamed tributaries of the Piscataway River are located along the northeast and southwest boundaries of the base and flow to Piscataway Creek. Piscataway Creek provides water to a marsh that is located adjacent to the southern border of the site (see Figure 2-2).

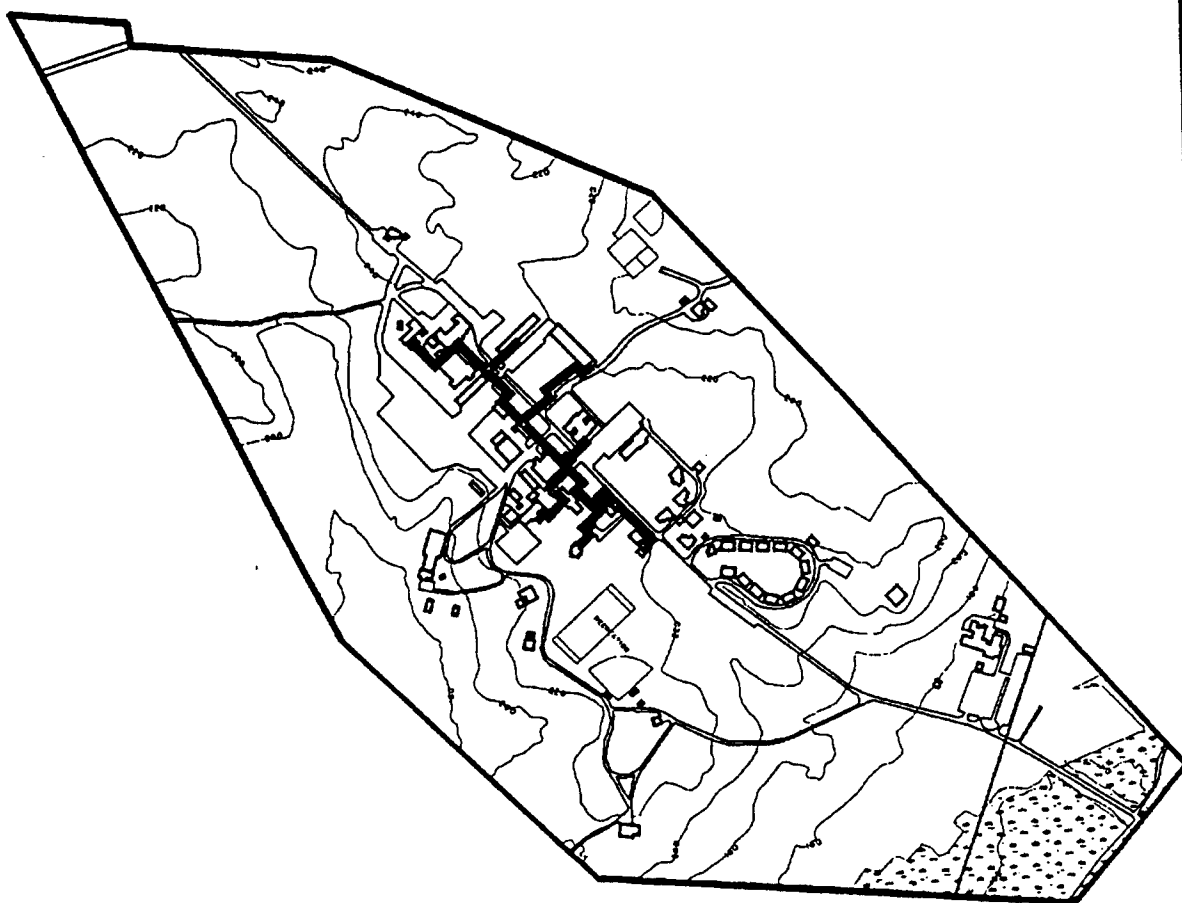
### 4.3 Delineation of Subsurface Conduits and Runoff Patterns

#### 4.3.1 Subsurface Conduits

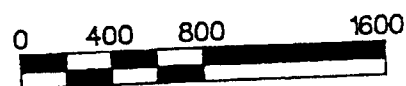
Subsurface conduits at the NCDC installation house the main utilities for the facility, including heat, potable water, electricity, storm sewer, and sanitary sewer.

**Heat** - Heat is provided to the majority of NCDC core base buildings along Redman Avenue via high temperature hot water (HTHW) lines which originate at the installation's central heating plant located in Building 2. There are two main HTHW distribution lines; one HTHW line runs north of the central heating plant and the other HTHW line runs south. Figure 4-2 delineates the subgrade HTHW lines located at NCDC. Tables 2-1, 2-2, and 2-3 list the buildings and structures and their corresponding heating systems, if applicable.

**Potable Water** - Potable water is supplied to the facility by pumping groundwater from two wells located at Buildings 9 and 108. The wells are approximately 350 feet deep and have a combined pumping capacity of 425 gallons per minute or 612,000 gallons per day. During the EBS site reconnaissance, the pump located in Building 9 was being repaired by A.C. Schultes Drilling Company as the pump was not operating at capacity.



 HIGH TEMPERATURE  
HOT WATER LINES



SCALE: 1" = 800' - 0"

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FIGURE 4-2  
SUBSURFACE CONDUITS -  
HIGH TEMPERATURE  
HOT WATER LINES

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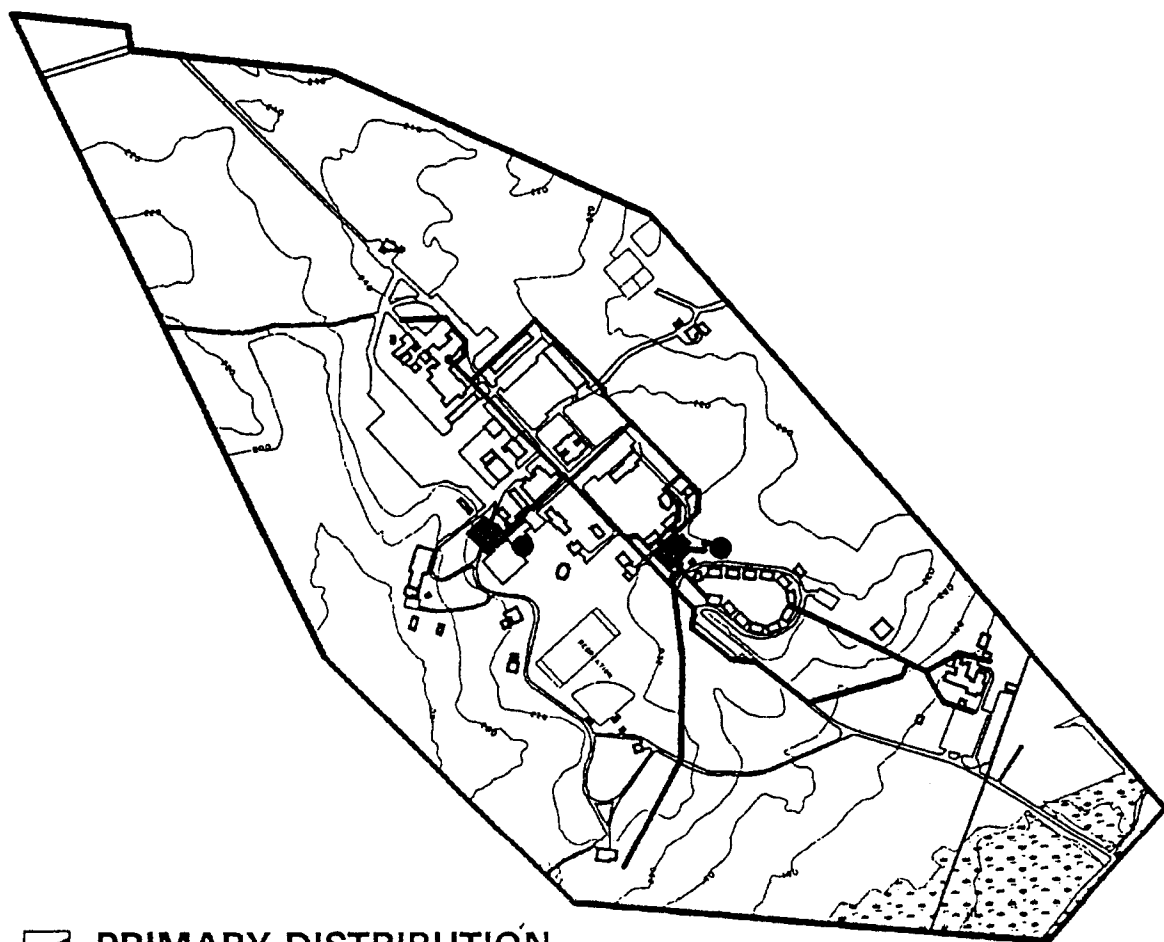
According to NCDC's Master Plan Update (date unknown), the potable water distribution system consists of 8,500 feet of cast iron piping, two elevated water storage tanks with a combined capacity of 200,000 gallons, and water chlorination systems. Figure 4-3 illustrates the primary water distribution lines, the elevated tank locations, and the pump locations. The primary distribution lines follow Redman Avenue and include the outlying operations facilities located at Building 31 and Building 84.

**Electricity** - Electricity is supplied to the NCDC facility by PEPCO via two primary underground feeders. These primary feeders provide power to the main substation (Substation 1 located at Building 1). The main substation provides simple radial or primary selective service to seven additional substations located throughout the facility. Figure 4-4 illustrates the PEPCO-owned primary feeders, the primary distribution lines, and the eight substations located at Buildings 1, 2, 13, 31, 84, 121, and 230, and at Stone Court.

**Storm Sewer** - Approximately 12,000 linear feet of storm sewers, catch basins, inlet culverts, and drainage ditches exist at NCDC. The storm sewer system services the operational, housing, and recreational areas of the site. The storm sewers direct flow to seven outfalls (Outfall 1 and Outfalls 4 through 9) located at the perimeter of the core facility. In April 1994, Rust Environment & Infrastructure (E&I) prepared an Illicit Discharge Study (IDS) and a Storm Water Pollution Prevention Plan (SWPPP) for NCDC. The SWPPP was prepared in an effort to meet the requirements of the EPA's National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges and addresses the containment of pollution at its source, before it impacts overland storm water runoff. During the IDS, storm sewers were evaluated and delineated; the evaluation included the observation of all storm water structures (i.e., catch basins, drop inlets, manholes, and outfalls) and the inspection of building interiors to verify connections to the storm drain system. Figure 4-5 illustrates the general configuration of the storm and sanitary sewer system at NCDC.

**Sanitary Sewer** - According to NCDC's Master Plan Update, the sanitary sewer system consists of approximately 7,200 linear feet of gravity sewer line, 1,600 feet of force mains, and two lift stations. The primary sanitary sewer line runs northwest to southeast along Redman Avenue and branches off to service the operations and housing facilities along the core base. Figure 4-5 delineates the main sanitary sewer lines at NCDC.

The sewer lines are in excess of 40 years old according to NCDC's Master Plan Update. A television inspection conducted in 1983 revealed deficiencies in the lines, including offset joints, root intrusions, broken and crushed pipe, mineral deposit dips, and cracks and it was concluded in the above-referenced document that the vertical misalignments and structural deteriorations are probable sources of infiltration and blockages.



 **PRIMARY DISTRIBUTION  
LINES**

 **WELLS**

 **STORAGE TANKS  
ABOVE GROUND**



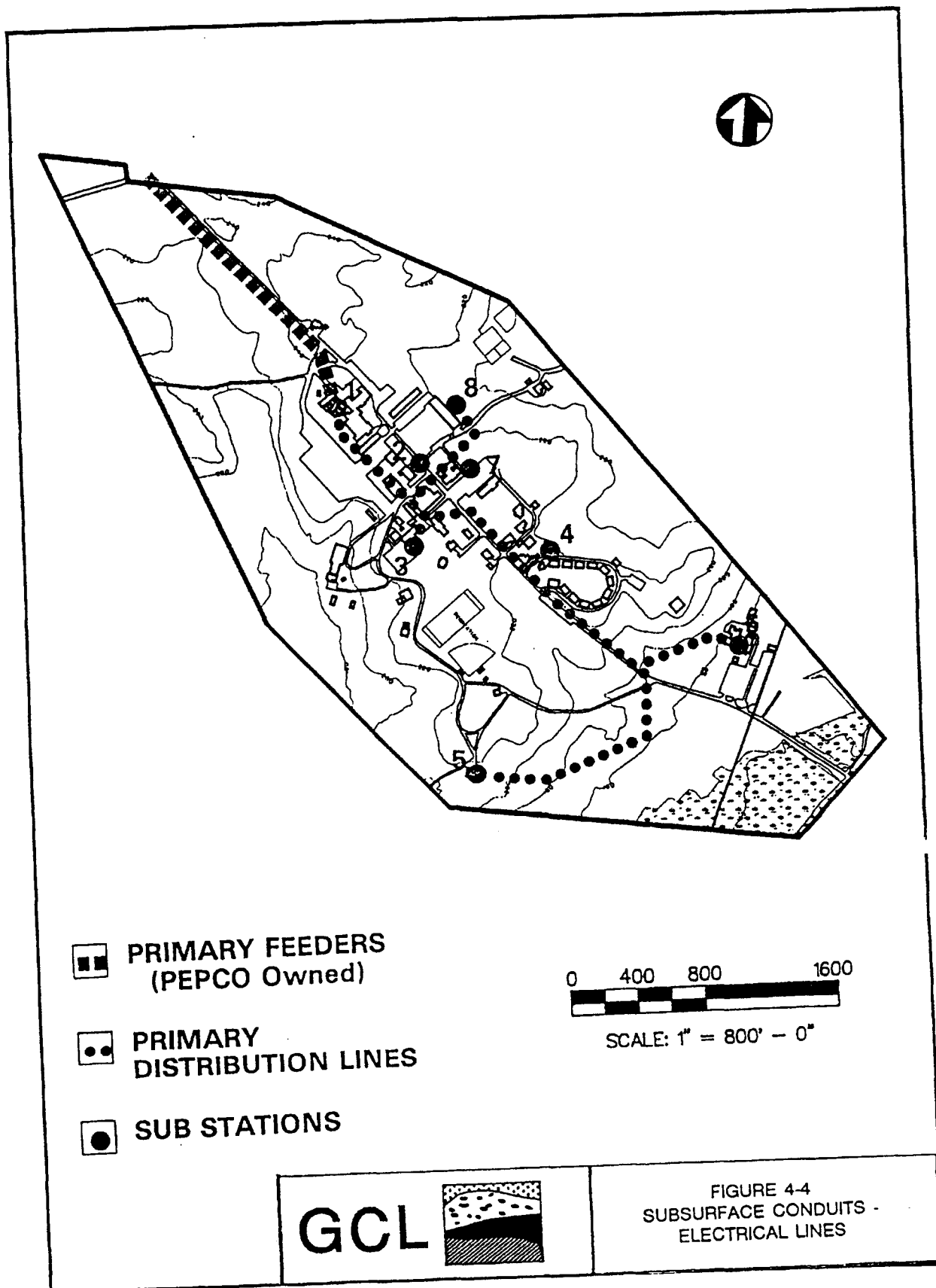
SCALE: 1" = 800' - 0"

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**FIGURE 4-3**  
**SUBSURFACE CONDUITS -**  
**POTABLE WATER LINES**







 MAJOR SANITARY  
SEWER LINES

 MAJOR STORM  
SEWER LINES

0 400 800 1600



SCALE: 1" = 800' - 0"

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FIGURE 4-5  
SUBSURFACE CONDUITS -  
STORM AND SANITARY  
SEWERS

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#### 4.3.2 Surface Drainage Patterns

The core base of NCDC is located on a parcel of land with significant relief. The facility is situated between two unnamed tributaries of Piscataway Creek located southwest and northeast of the core base. The highest topographic areas are located in the northwestern area near the DoE facility and the northeastern corner of the facility near the Cheltenham Wetlands Park. Surface drainage appears to flow to the south of these high areas toward Piscataway Creek; a local drainage divide is likely to occur along the central portion of the site between the tributaries. Rust E&I delineated local drainage divides on the core base during the IDS (April 1994). Figure 4-6 depicts Rust E&I's findings regarding the site surface drainage divides and drainage directions. Local drainage of the core base is to the southeast where the relief changes elevation from 240 feet above MSL near Building 1 to 160 feet above MSL at the Prince George's County Fire Training Academy (see Figure 2-2).

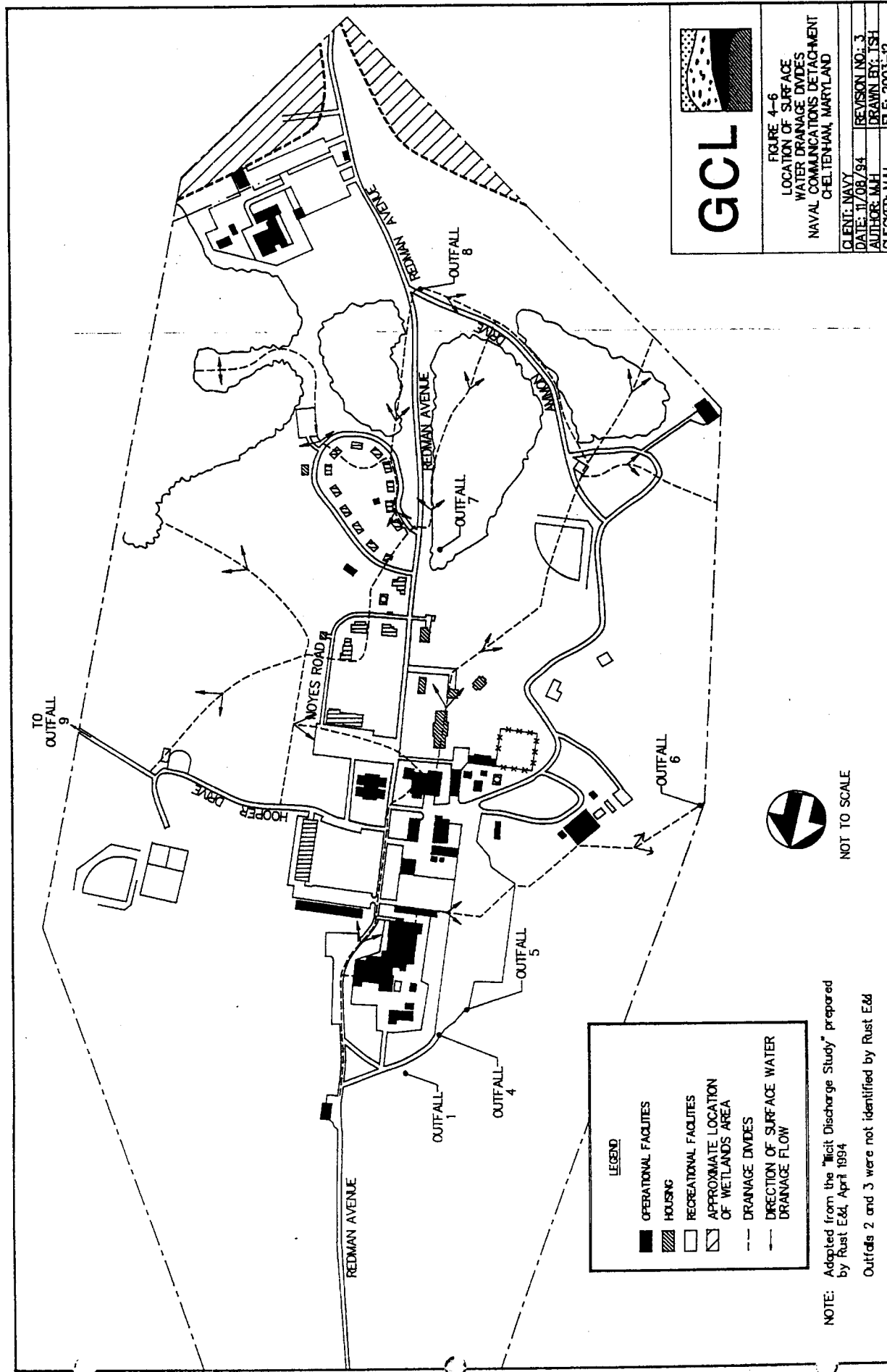
#### 4.4 Hazardous Substances and Petroleum Production

The following sections describe the location and areas that may use or store hazardous substances or petroleum products. Figure 4-7 illustrates approximate locations of hazardous substance and petroleum storage areas. Appendix G contains photographs of the miscellaneous storage areas discussed below.

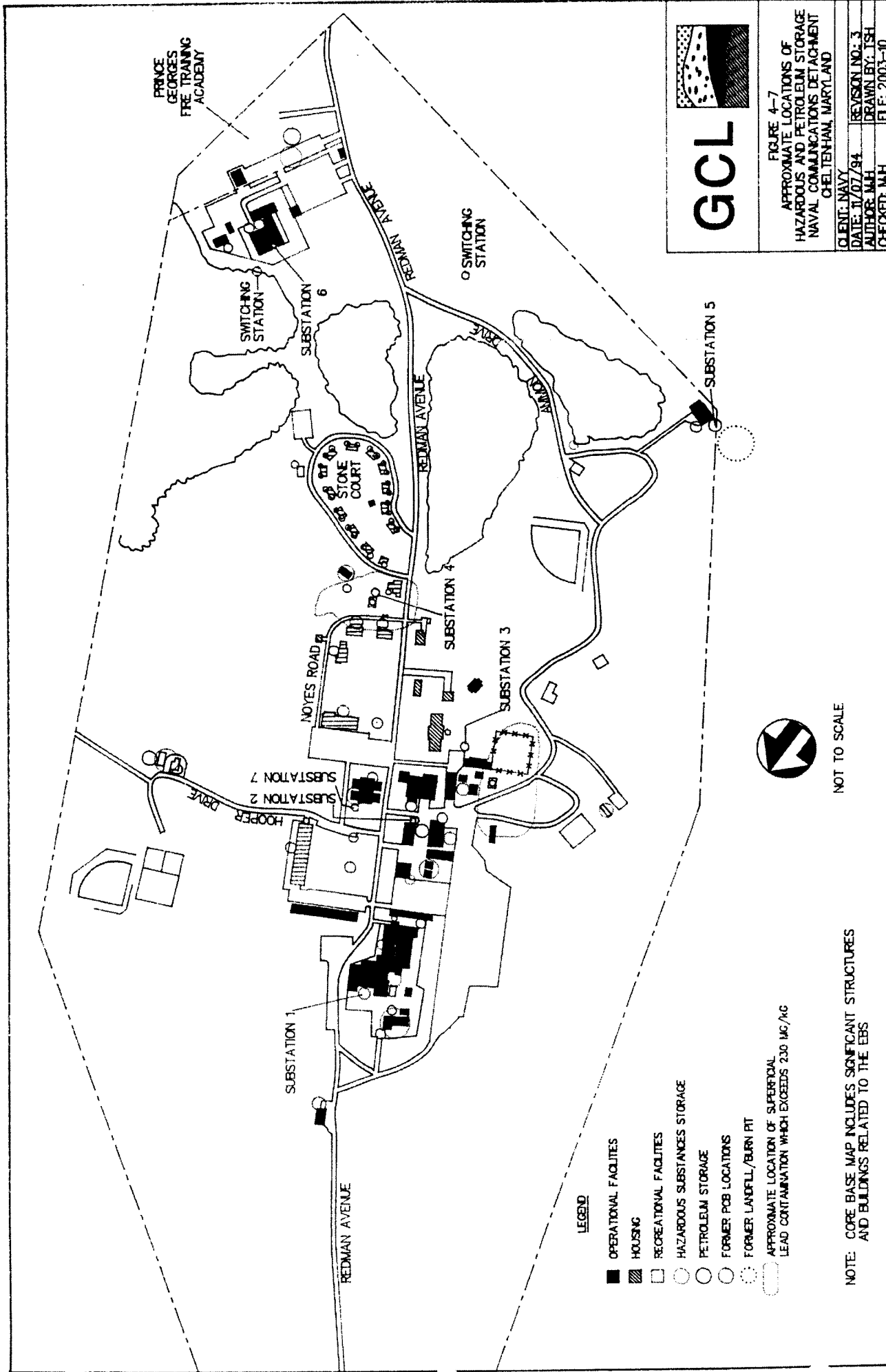
##### 4.4.1 Operational Facilities

**Building 1** - Two flammable storage cabinets are located in the basement of Building 1. The cabinets contain lubricating oils, isopropyl alcohol, and flux soldering, electrical coating, and computer screen care materials.

The mechanical room located in Building 1 houses a chiller system consisting of cylinders of refrigerant and condenser pumps; a cooling tower is located outside and behind Building 1. The mechanical room is also used for storage of descaling water treatment chemicals used in the cooling tower. The descaling compounds consist of 1-hydroxyethylidene, 1-di-phosphoric acid, potassium hydroxide, and a soluble molybdenum compound. NCDC is currently converting the old chiller system to a new more "environmentally sensitive system" according to Mr. Ridgeway. The current refrigerant used in the cylinders, stored in Building 1, consists primarily of dichlorodifluoromethane; the new refrigerant that will be used consists primarily of the hydrofluorocarbon 1,1,1,2-tetrafluoroethane (R-134A refrigerant).



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A floor drain was observed between two condenser pumps in Building 1. The flooring around the drain was stained with what appeared to be a non-petroleum compound, possibly spillage or leakage from the pumps of the cooling tower water treated with the descaler. The floor stains indicated that the spill or leak was discharged to the floor drain which is connected to the storm drain system, and according to the Rust E&I Stormwater Pollution Prevention Map (1994), may eventually discharge at Outfall 4 west of Building 64.

**Building 3** - The IDS conducted by Rust E&I, indicates that Building 3, the former mess facility, operates grease collection pits which are not connected to the storm or sanitary sewers. The grease pits receive floor drain wash water when the facility is in operation. According to the IDS, the grease pits were cleaned and the contents removed from the site. Rust E&I confirmed that the pits were not discharging to the sewer systems.

**Storage Courtyard Between Buildings 11 and 33** - Five metal 55-gallon drums and a plastic drum with a capacity of less than 55 gallons were stored on pallets and exposed to the elements. The metal drums were labelled "Mixed Oil and Water," "Lubricating Oil," and "Engine Petro" and the plastic drum was not labelled. According to NCDC personnel operating the boilers in Building 2, the drums located in the storage courtyard between Buildings 11 and 33 contain an oil-water mixture. NCDC personnel reported that the oil-water mixture is periodically pumped out of the UST located at Building 31 as water enters the tank from a subsurface source causing an interruption to the fuel supplying the boiler at Building 31.

The courtyard is also used for storage of miscellaneous snow removal equipment; kitchen appliances such as washers, dishwashers, and stoves; air conditioners; sinks; two motor units; drinking fountains; and two refrigerators. A heat exchanger was also stored in the courtyard and exposed to the elements. A shelter located at Building 11 is also used to store lawn mowers, portable generators, electrical equipment, trash cans, two empty fuel oil aboveground storage tanks (ASTs), and a supply of metal casings used for electrical conduits. Equipment stored in these areas typically contains oils that could be contaminated with PCBs and several of the items may contain freon.

**Building 11 (Rear and Front Interiors)** - The interior of Building 11 is used for storage of gardening tools and supplies, scaffolding, flake calcium chloride used for snow removal, a fan, an old vacuum cleaner, one car battery, and a non-industrial paint sprayer. A section of the interior of Building 11 was also dedicated to the storage of some obsolete equipment and, according to Mr. Carl Harley, the equipment is to be sent to Defense Reutilization and Marketing Office (DRMO), a division of the Defense Logistics Agency (DLA) located at Fort Meade.

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The front interior of Building 11 is used as dry storage for equipment such as furniture, bikes, playground benches, and a baseball field striper. The front of Building 11 is also used for the storage of old window air conditioning units manufactured in April 1979. Because of their age, these air conditioners may have contained freon.

**Building 13** - One flammable storage cabinet is located in the basement of Building 13 and stores compounds used for maintenance of the bowling alley such as floor wax and miscellaneous greases used to maintain the gears that set the bowling pins. In addition, the closet of the Melwood Custodial Services office and an adjacent broom closet, both located on the first floor of Building 13, house general custodial supplies such as soap, wax stripper, buffer, polishes, cleaners, and miscellaneous paper supplies. The above-referenced compounds typically contain hazardous substances such as chlorinated solvents, petroleum-based compounds, and oil and greases.

**Building 14** - The paint storage room located in Building 14 contains several types of paint, mineral spirits, shellac, glass cleaners, lubricating oils, propane fuel cylinders, adhesives, general purpose and battery cleaners, miscellaneous maintenance supplies, pesticides, fungicides, insecticides, ammonia hydroxide, chloroethene, miscellaneous solvents, and carpentry repair compounds (sheet rock joint compound and adhesive). There are two flammable storage cabinets located in the paint room at Building 14 labelled "For Survey" which contain corroded cans of chloroethene, methyl ethyl ketone (MEK), TF fluorocarbon solvent, carpet cleaner, epoxy coating, insect killer, mineral oil, miscellaneous cleaners such as wire and cable drawing compound, and solvent remover. According to NCDC personnel, these hazardous substances have been stored in the "For Survey" cabinets pending disposal at DRMO. From the conditions of the containers, it appears these compounds have been stored for a period exceeding one year.

**Building 15 (Interior)** - One flammable storage cabinet is located in Building 15 and contained an empty one-gallon gasoline can.

**Building 15 (Exterior Under Shelter)** - Several potentially hazardous materials are stored outside of Building 15 and beneath the shelter. The materials and compounds include ethylene glycol; corrosive water treatment chemicals; eight 55-gallon metal drums containing waste oil, one of which is filled to capacity; hydraulic oil; and cylinders of carbon dioxide, oxygen, bromochlorodifluoromethane, helium, nitrogen, and chlorine. There are two flammable storage cabinets located behind Building 15, one of which is empty and the other stored four containers of gasoline.

**Building 31** - The boiler room located in Building 31 contains approximately 20 gallons of corrosive water treatment chemicals used in the boiler. The floor area around the boiler

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was observed to be stained and wet during at the time of inspection. Boiler water treatment chemicals typically contain corrosive hydroxide compounds.

GCL observed piping sticking out of the ground at the northeast corner of Building 31 and directly next to the elevated concrete pad. The purpose of the piping was not identified during the EBS (Appendix G).

**Building 64** - Building 64 is the generator building which houses the uninterruptable power supply (UPS) and the battery room. The UPS system consists of approximately three year-old capacitors and the battery room stores approximately 139 sulfuric acid battery cells. An additional battery cage is located adjacent to the emergency generators. The battery cage consists of 24 batteries of unknown content that were manufactured by an Italian company, Flamm. One floor drain was observed in the battery room, located in a bermed-area designated as a safety shower. The generators in Building 64 also are likely to contain lead starter batteries.

**Building 108** - Building 108 is the water treatment facility where a cylinder of chlorine is used to ensure adequate chlorination of the water on a daily basis. The floor was observed to be wet with chlorinated water and draining to a floor drain which discharges from a pipe to a sump on the exterior of the building. There is no delineation of a sewer line which connects to the sump from the documentation supplied by the Navy.

**Building 110A** - Building 110A is a flammable storage trailer that houses miscellaneous paints including latex, oil-based, spray enamel, and zinc chromate primers; safety solvent; adhesives; epoxy and shellac thinners; glues; alcohol; shellac; trichlorofluoroethane; cements; oils; cleaners; and wood fillers. All items have National Fire Prevention Association (NFPA) labels but not manufacturers' labels. The materials listed above typically contain lead, cadmium, zinc, chromium, solvents such as MEK and trichloroethylene (TCE), volatile organic compounds such as toluene and xylenes, petroleum-based compounds, and semi-volatile organic compounds.

**Building 110B** - Building 110B is located next to Building 110A and is used as a corrosive storage trailer. The items stored within Building 110B consist of hydraulic fluid (petroleum inhibited), lubrication oils, adhesives, germicidal detergent, soldering flux, concrete pipe joint filler, boiler water treatment, cooling water treatment, tower safe, coil deslimer, muriatic acid, degreaser, insecticide, and ammonium hydroxide. Cooling water treatment chemicals typically consist of 1-di-phosphoric acid, potassium hydroxide, hydroxyethylidene, and a soluble molybdenum compound. Degreasers consist of chlorinated solvents and boiler water treatment chemicals consist of corrosive hydroxide compounds.



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**Generators** - NCDC operates five generators at the facility which contain starter batteries. As discussed above, two generators are located at Building 64 and appear to contain lead batteries. Caterpillar® generators, located adjacent to Building 13 and Building 108, are equipped with Caterpillar® batteries of unknown contents. Finally, a generator is located in Building 2 and appears to contain a lead starter battery.

### 4.4.2 Housing Facilities

The inhabited housing facilities were not inspected for potentially hazardous materials; however, it can be assumed that common household cleaning compounds, paints, petroleum-based compounds, and adhesives may be stored in the inhabited housing facilities. A flammable storage cabinet was observed outside of Building 230 and contained a one-gallon can of paint.

### 4.4.3 Recreational Facilities

**Building 10** - GCL identified two flammable storage cabinets located next to the shed which services the Boy Scout operations at Building 10. An empty propane tank was stored in one flammable storage cabinet; the other was empty. A metal 55-gallon drum, which appeared empty, was located adjacent to the Boy Scout shed. A white granular substance was observed underneath the drum (Appendix G).

**Building 122** - No chemical storage was observed at Building 122 during the site inspection; however, it can be inferred from historical use that the pool filter house would have stored chemicals used for operation and maintenance associated with the pool filtering system. Pool filtration systems typically include the use of chlorine.

**Building 214** - Building 214, the hobby shop, is currently utilized as a storage area for miscellaneous pieces of equipment. Although the hobby shop is not currently used for automotive repairs, the shop still stores automotive equipment. GCL observed two car batteries on the concrete floor of the building. A flammable storage cabinet is in the interior of Building 214 and contained two empty gasoline cans (one-gallon and five-gallon), one quart of cherry wood finish, and one gallon of shellac.

The furnace room of Building 214 was used to store approximately 31 cases of cleaning supplies including approximately 10 cases of general disinfectant (six gallons per case), four cases of floor wax (five gallons per case), four cases of corrosive floor stripper, approximately three cases of corrosive bleach, some of which were leaking, and two one-

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gallon rusty metal containers of denatured alcohol. In addition, it can be assumed that potentially hazardous substances used in automotive repairs were likely to have been stored at the site of the former hobby shop (Building 12).

Based on site inspections, the remaining facilities at the site did not store hazardous substances or petroleum products. There is no historic or current evidence of petroleum production at the core base of NCDC; however, petroleum is stored at the facility. Petroleum storage is addressed in Section 4.7. No other storage of potentially hazardous materials was identified during the inspection.

#### 4.4.4 Prince George's County Fire and Rescue Training Academy

According to Captain Lisa Dunaway, the Prince George's County Fire and Rescue Training Academy stores a limited supply of a liquid foam product used for extinguishing chemical fires which was donated to the County for training purposes. The product is manufactured by 3M and its catalog identification number is FC-206CE. Captain Dunaway indicated that the maximum volume of foam stored at the facility is 100 gallons and the maximum period of time the product is stored is two months; however, the approximate volume of liquid foam product stored at the facility during the inspection on October 17, 1994 was 180 gallons. The Academy does not use the foam product at the Cheltenham facility as they do not conduct hands-on training for chemical fires. The Academy stores the product for the training facility located at the Baltimore-Washington International Airport in Glen Burnie, Maryland.

According to Captain Dunaway, the training facility has not had a known release on site. During fire fighting training conducted at this site, no chemicals are used. Wood pallets and wood shavings are used to start fires and pressurized water extinguishers or water hoses are used to put the fires out. Occasionally diesel fuel is burned inside metal pans but all of the diesel fuel is burnt off and the pans are not emptied.

#### 4.5 Solid and Hazardous Waste

##### 4.5.1 Solid Waste

Solid waste generated at the site consists of typical nonhazardous trash (e.g., paper goods, boxes, scrap wood, etc.). According to facility personnel, two other types of facility wastes are also disposed of in the dumpster as nonhazardous solid wastes. These wastes are of

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minimal volume and include the sawdust collected by the vacuum system located at the carpentry shop in Building 14 and the soot cleaned out of the boilers approximately once per year. According to Mr. Ridgeway, the solid waste is removed off-site by a contractor on an as-needed basis.

### 4.5.2 Hazardous Waste

**ERIIS Data Base** - NCDC is listed on the ERIIS data base as the Naval Communications Unit (NCU) and Naval Communications Unit-Washington, located at Dangerfield and Commo Roads in Cheltenham and Clinton, Maryland. The reference to NCU or NCU-Washington refers to the Cheltenham facility prior to its detachment status. The facility is listed on the ERIIS data base as a RCRIS large quantity generator (LQG). A LQG is a facility which generates more than 1,000 kilograms of hazardous waste per calendar month. The ERIIS data base reported the following waste codes for the NCDC facility:

- F001 - Spent halogenated solvents used in degreasing and sludges produced from the recovery of the halogenated solvents during degreasing operations (i.e., tetrachloroethylene (PCE), TCE, methylene chloride, 1,1,1-Trichloroethane (TCA), carbon tetrachloride, and chlorinated fluorocarbons)
- F005 - Spent non-halogenated solvents and the still bottoms from the recovery of the non-halogenated solvents, (i.e., toluene, MEK, carbon disulfide, isobutanol, pyridine)

The ERIIS report identified NCDC on the FINDS data base as a facility with an EPA generator identification number and reported with a known or possible release. NCDC's EPA identification number was listed on the ERIIS data base as MD170090007. NCDC was also included as a LQG and HWS in the ERIIS data base.

**Miscellaneous Hazardous and Solid Waste** - During the records inspection, GCL reviewed documentation for characterizing and disposing of waste shipments. The wastes were identified as waste combustible liquid (20 gallons); a hazardous waste solid contaminated with teletype cleaning solution (unknown quantity); 500 pounds of an unknown hazardous waste; flammable liquids (10,800 pounds); an ethylene glycol, water, and acetone wastestream generated by the machinery coolant process (3,455 pounds); an oil and antifreeze mixture and spill debris (10,758 pounds); and a petroleum and synthetic oil, water, and sludge wastestream generated by the lubricating process (5,234 pounds).

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### Environmental Baseline Survey

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**Waste Oil** - Documentation reviewed indicated that the Safety Manager made an effort to characterize waste oil for disposal in 1988 and 1989; however, there were no records available in the files reviewed pertaining to the analysis of waste oils.

**Contaminated Soil** - According to NCDC files, prior to May 8, 1990, a release of five gallons of waste oil occurred behind the hobby shop (Building 214). No documentation was available indicating the cause of the release or how it was discovered. The file contained documentation of the following:

- MDE Hazardous and Solid Waste Management Administration, Reports of Observations
- Soil removal and disposal by Waste Management of Prince George's County/Waste Management, Inc.
- Preliminary analytical results for the analysis of four soil samples and one water sample

An oil-water separator and a waste oil storage tank is located behind the building. According to the MDE Report of Observations dated May 25, 1990, four soil samples were collected at a depth of 12 inches and analyzed for total petroleum hydrocarbons (TPH). The analytical results indicated that TPH was present at concentrations ranging from less than 1 part per million (ppm) to 2,800 ppm. One surface water sample was collected and analyzed from the adjacent creek, which had originally been suspected of being contaminated; the sample results indicated no contamination. No PCBs were found in any of the samples. According to the MDE representative, NCDC personnel were instructed to remove the contaminated soil to a depth of 14 inches and dispose of it at a permitted landfill. Documentation was not available in the files reviewed to confirm the soil was disposed of at a permitted landfill.

A follow-up Report of Observations, documented by MDE on June 21, 1990, was included in the file. According to the MDE representative, his visual inspection of the affected area revealed a "very small area of contaminated soils remaining. The soils were removed by backhoe after my inspection and spread for aeration at another location. No further remediation required." Although the MDE document reported aeration of the contaminated soil at another location, the file contained a requisition, dated June 29, 1990, for a change order to dispose of additional contaminated soil; therefore, it is possible that contaminated soil resulting from the waste oil release was not spread for aeration, but was instead disposed of at a permitted landfill.

## U.S. Naval Communications Detachment - Cheltenham, Maryland Environmental Baseline Survey

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According to Mr. Larry Deal, a significant volume of oil-contaminated soil was also removed during the excavations of the USTs at Buildings 2, 64, 19C, 15, and 49. Documentation reviewed pertaining to contaminated soil transport and disposal includes four 55-gallon drums (1,800 pounds) of contaminated soil warehoused March 10, 1993 at Building 11 and transported off-site in April 1993, and two loads of nonhazardous petroleum-contaminated soil from Building 49 transported off-site in February 1994.

### 4.6 CERCLA-Related Contamination

NCDC, referred to as the U.S. Naval Communications Unit, was listed as a CERCLIS site on the ERIIS environmental data base. To date, a Preliminary Assessment (PA), has been conducted at the facility.

The PA report, dated April 1988, was conducted by the Naval Energy and Environmental Support Activity (NEESA), Port Hueneme, California. The PA was submitted to EPA Region III in April 1988 in order to satisfy the requirements of Section 120(d) of SARA. The Naval Facilities Engineering Command tasked NEESA to conduct a PA for each Navy and Marine Corps facility listed on the Federal Agency Hazardous Waste Compliance Docket as required by SARA Section 120. The PA was conducted in accordance with EPA draft guidance on Pre-Remedial Activities at Federal Activities, dated September 8, 1987.

The PA addressed two main concerns: small quantities of hazardous waste produced, drummed, and stored on-site, and an abandoned landfill located on the Cheltenham Wetlands Park area. The hazardous waste generated on-site was typically a mixture of cleaning solvents and petroleum products.

The date the landfill operation began was reported in the PA as unknown and operations ceased in approximately 1977. The landfill area was a combined burn pit and landfill consisting of one trench, approximately 20 feet long by 8 feet wide by 10 feet deep. According to Mr. W. Mike Harley, an NCDC employee for 25 years, there were two segregated areas of the landfill site. These areas consisted of "burnables" and metal scrap. Trash generated at the site was collected about once every two weeks and deposited in the trench. The PA report indicated that the wastes disposed at the landfill consisted primarily of excess building material, e.g., scrap metal, wood antenna poles, and general trash. The general trash included mostly waste paper with small amounts of other waste including empty spray paint cans and empty solvent containers. It was also reported in the PA that treated domestic sewage sludge may also have been disposed of at this landfill. The waste paper in the trash was used to ignite the fire.

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According to Mr. Harley, the scrap metal pile was removed in approximately 1967 or 1968 and he believed no hazardous compounds were disposed of in the burnables trench. When operations ceased at the landfill site, the area was covered with approximately two feet of soil. Sampling was not conducted to determine the potential impact to the environment from this disposal practice. However, NEESA concluded that no further action was necessary since no hazardous waste was reported to have been disposed at the station landfill. No other disposal or spill sites were identified during the PA investigation and no adverse damage to the environment was detected during the activity visit. Visible evidence of the disposal and burn area was not evident during the visual inspection as the area is overgrown.

Additional site specific findings from the PA included the following:

- Underground Tanks - All active underground tanks were tested for leaks in 1987 and no leaks were detected; all inactive tanks were scheduled for proper abandonment.
- Transformers - Seven transformers contained PCBs. No leaks or suspected releases of PCBs were reported to have occurred. The PCB transformers were replaced with non-PCB equipment. According to the PA, as transformers were replaced, they were disposed of in accordance with all applicable regulations through DLA.

GCL received a copy of the PA report from EPA in response to a FOIA request and the report is included in Appendix C.

### 4.7 Storage Tanks

According to CERFA, the storage of petroleum products or their derivatives on a property prevents the property from being designated as "uncontaminated." Former and current petroleum product storage is discussed below.

#### 4.7.1 Underground Storage Tanks - Petroleum Storage

Information reviewed by GCL regarding the USTs located at NCDC includes NCDC maps, tank tightness test reports, tank gauging reports, and the MDE Tank Removal/Abandonment Forms.

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Since 1988, NCDC has closed 19 USTs at the facility, 18 of which were removed from the site and one was abandoned in place. Currently NCDC operates eight USTs. A list of current and former UST locations and their corresponding tank numbers, years installed, capacities, and contents are summarized on Table 4-1 and briefly discussed below.

USTs removed from NCDC, which required soil excavation and/or the installation of groundwater monitor wells, include the following locations:

- Building 2 - Three diesel USTs (two 12,000-gallon steel and one 1,000-gallon steel) (soil excavation and installation of monitor wells)
- Building 15 - One 2,000-gallon diesel UST (soil excavation and installation of a monitor well)
- Building 19C - One 1,000-gallon diesel UST (soil excavation and installation of a monitor well)
- Building 49 - One 1,000-gallon diesel UST (soil excavation)
- Building 64 - One 300-gallon diesel UST (also documented as a 550-gallon capacity UST) (soil excavation)
- Building 84 - One 1,000-gallon diesel UST (soil excavation)

These closures were conducted under the oversight of MDE and no further action is required at any of these sites.

The remaining tank removal locations, which did not require remediation, include the following:

- Building 31/231 - One 10,000-gallon diesel UST abandoned in place and one 4,000-gallon diesel UST removed with no visible contamination
- Building 64 - Two 10,000-gallon diesel USTs

Table 4-1

Petroleum Underground Storage Tanks Summary  
NCDC, Cheltenham, Maryland

Building	Tank Number <sup>1</sup>	Year Installed	Capacity(Gal)/Tank Material	Substance Stored	Tank Status	Comments
2		1957	12,000/Steel	No. 6 diesel	Removed 1992	Monitor wells installed <sup>2</sup>
2		1957	12,000/Steel	No. 6 diesel	Removed 1992	
2		1972	1,000/Steel	No. 2 diesel	Removed 1992	
2	4	1992	12,000/Fiberglass	No. 2 diesel	In use	
2	5	1992	12,000/Fiberglass	No. 2 diesel	In use	
2	6	1992	1,000/?	No. 2 diesel	In use	
3	13	1988	1,000/Steel	No. 2 diesel	In use	Two observation wells installed <sup>2</sup>
4		1957	1,000/Steel	No. 2 diesel	Removed prior to 1988	No additional information available
12	11	1957	550/Steel	Water	Removed 1989	No information available
13	7	1957	1,000/Steel	No. 2 diesel	In use	
15	8	1977	2,000/Steel	Gasoline	Removed 1992	Tank was perforated; soil excavated
18	15	1957	550/Steel	No. 2 diesel	Removed 1989	No additional information available
19A		1962	550/Steel	No. 2 diesel	Removed 1989	No additional information available
19C	3	1962	1,000/Steel	No. 2 diesel	Removed 1992	Contaminated soil removed; one monitor well installed <sup>2</sup>

Notes:

<sup>1</sup> Tank numbers are based on the NCDC 1991 UST Inventory documentation<sup>2</sup> Observation wells are installed in accordance with the State of Maryland regulations to monitor leak detection; monitor wells were installed to monitor groundwater quality.



Table 4-1

Petroleum Underground Storage Tanks Summary  
NCDC, Cheltenham, Maryland (Continued)

Building	Tank Number <sup>1</sup>	Year Installed	Capacity(Gal)/Tank Material	Substance Stored	Tank Status	Comments
31	18		10,000/Steel	No. 2 diesel	Abandoned-in place 1991	Leak in fuel line; tank shurried in place per MDE
31	10	1947	3,000/Steel	No. 2 diesel	In use	
31 (231)	11	1969	4,000/Steel	No. 2 diesel	Removed 1991	No visible contamination
31 (231/40)		1951	3,500/Steel	No. 2 diesel	Removed 1989	No additional information available
49	9	1950	1,000/Steel	No. 2 diesel	Removed 1993	Tank was perforated, contaminated soil under fuel line
64			300/Steel	No. 2 diesel	Removed 1988	Soil contamination observed, originally listed as 550-gallon tank
64	2	1962	10,000/Steel	No. 2 diesel	Removed 1992	No soil contamination or perforation observed
64	1	1962	10,000/Steel	No. 2 diesel	Removed 1992	
84		1957	1,000/Steel	No. 2 diesel	Removed 1990	Minimal soil contamination observed, located on land given to PG County
214	12	1983	550/Steel	Waste oil	In use	Originally listed as 275 gallon tank in 1987 inventory
230	14	1988	1,000/ 2,000/Steel	No. 2 diesel Water	In use Removed 1989	Two observation wells? No additional information available
Former Bachelor Quarters (North)		1947			Removed 1989	No additional information available
Former Bachelor Quarters (South)		1947		No. 2 diesel	Removed 1989	No additional information available

## Notes:

<sup>1</sup> Tank numbers are based on the NCDC 1991 UST Inventory documentation<sup>2</sup> Observation wells are installed in accordance with the State of Maryland regulations to monitor leak detection; monitor wells were installed to monitor groundwater quality.

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Seven USTs were removed from service without closure documentation and include the following:

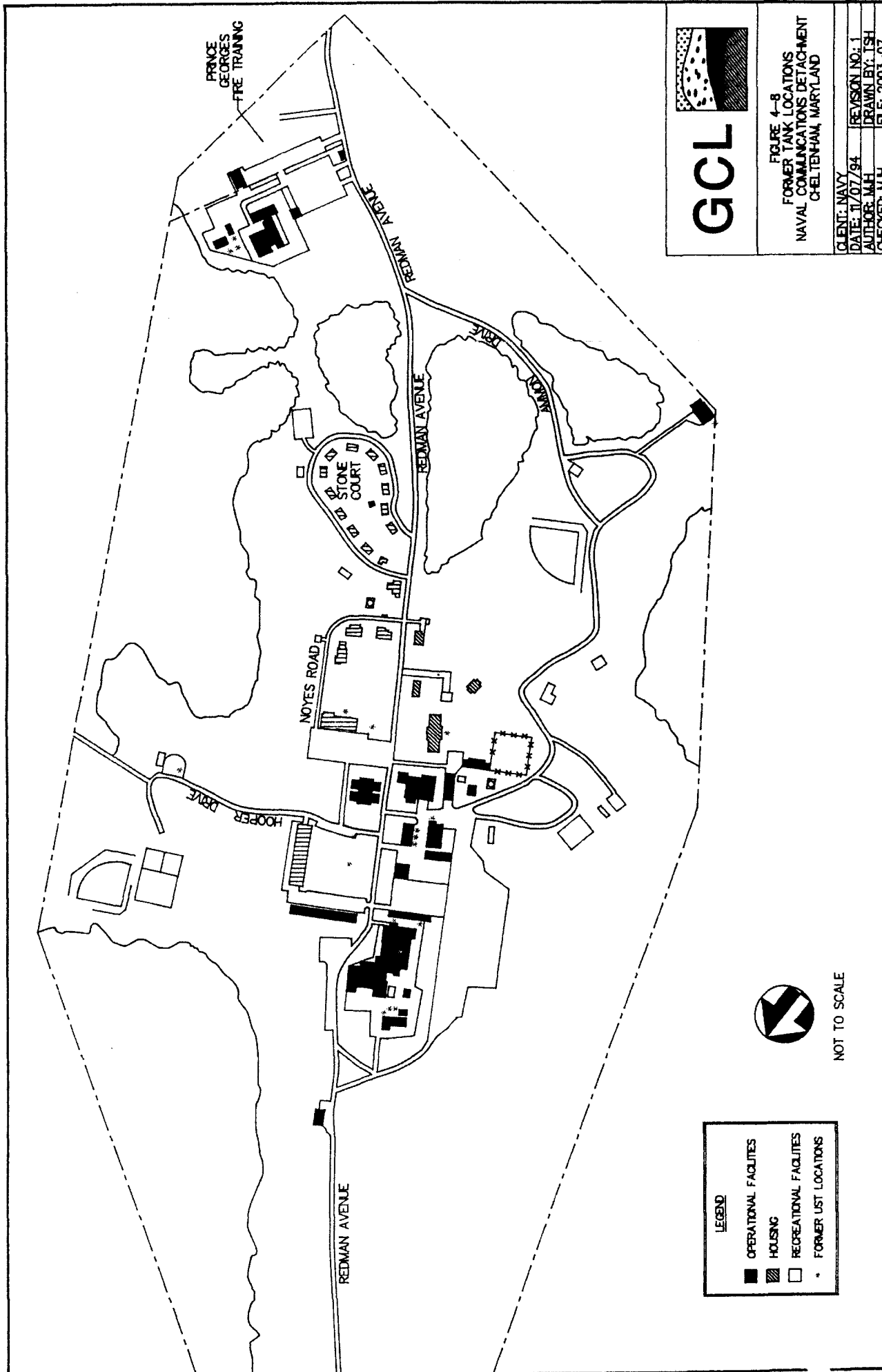
- Building 19A - One 550-gallon diesel
- Former Bachelor's Quarters - Two 2,000-gallon USTs, one containing water and the other diesel
- Building 12 - One 550-gallon water UST
- Building 4 - One 1,000-gallon diesel UST
- Building 18 - One 550-gallon diesel UST
- Building 31/231/40 - One 3,500 diesel UST

Figure 4-8 identifies graphically the former UST locations.

Currently eight USTs, utilized for petroleum storage, are in use at NCDC. The tanks all contain heating oil (diesel) with the exception of Tank 12, a 550-gallon waste oil tank located at Building 214. The diesel USTs are used as follows:

- Two 10,000-gallon tanks (Tanks 4 and 5), associated with Building 2, fuel the boilers that provide steam heat for Buildings 14, 15, 13, 4, 100, 101, and 32
- Tank 6 fuels the generator at Building 2
- Tank 7 fuels a boiler that provides hot water for Building 13
- Tank 10 fuels a boiler that provides hot water for Building 31
- Tank 14 fuels the boiler for heat and hot water to Building 230, the enlisted quarters
- Tank 13 fuels the boiler supplying hot water to Building 3

Figure 4-9 presents the current UST locations at NCDC.

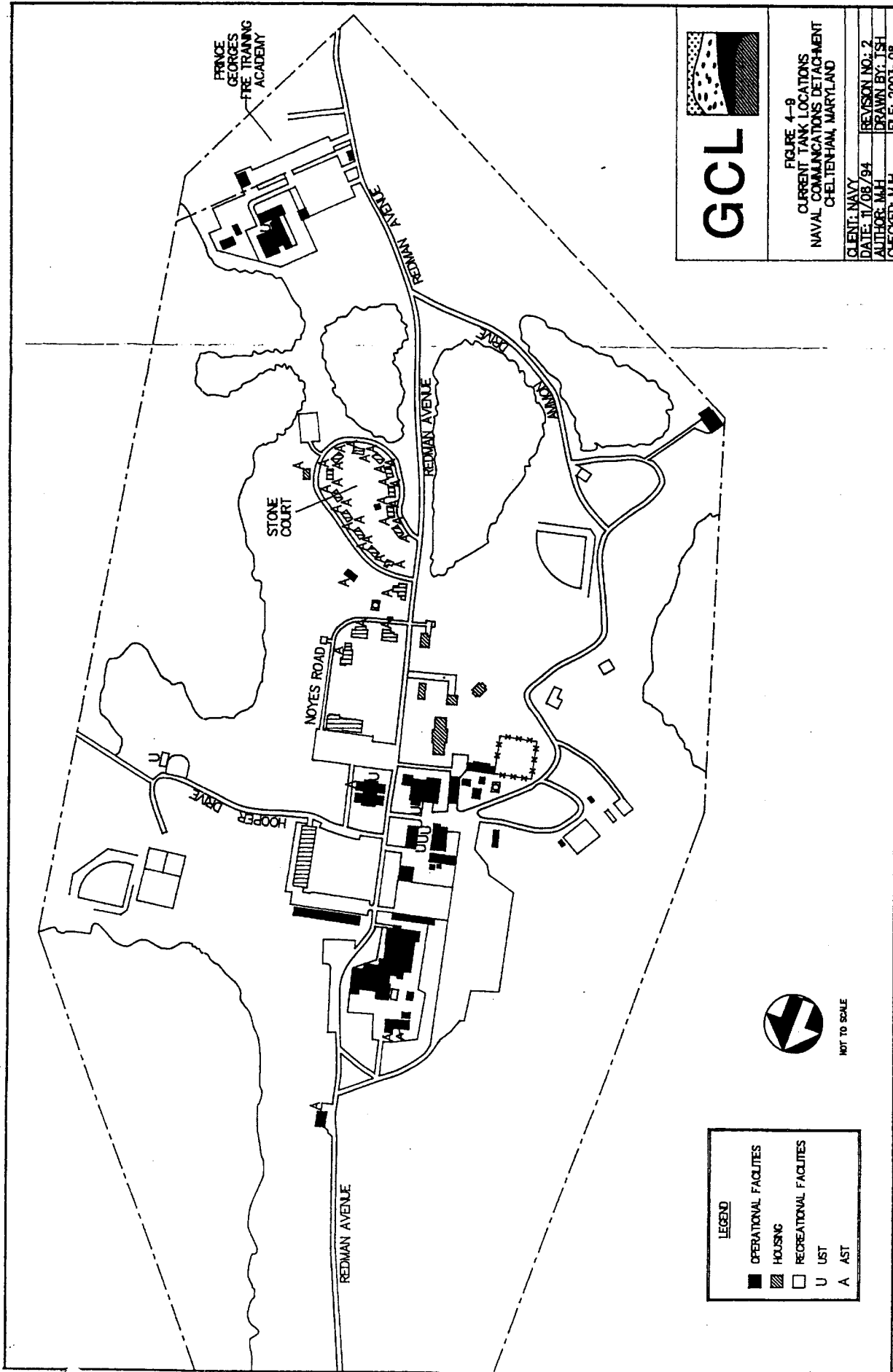


**GCL**

**FIGURE 4-8**  
**FORMER TANK LOCATIONS**  
**NAVAL COMMUNICATIONS DETACHMENT**  
**CHELTENHAM, MARYLAND**

CLIENT: NAVY	REVISION NO: 1
DATE: 11/07/94	DRAWN BY: TSH
AUTHOR: M.H.	CHECKED: M.H.
	DATE: 2003-07

000157121



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#### 4.7.2 Aboveground Storage Tanks - Petroleum Storage

Thirty-five ASTs, 30 associated with housing facilities and five associated with operational facilities, are currently located at NCDC. The AST locations include the following:

- Housing - Thirty 275-gallon heating oil ASTs are associated with housing units on Stone Court (Buildings 86 through 98), Building 27, and Quarters E, F, G, and H (Buildings 102 through 105)
- Building 22 - One 2,000-gallon gasoline AST with secondary containment and a dispenser mounted on the tank dispenses gasoline to government-owned vehicles
- Building 64 - Two diesel ASTs, one 8,000-gallon AST with secondary containment and one day tank of approximately 500 gallons, were assumed to be installed to replace two 10,000-gallon USTs removed in 1992; the tanks are used to fuel the generators for the UPS system required for communications in Building 1
- Buildings 13 and 108 - Two 150-gallon diesel day tanks associated with the Caterpillar® generators, located at Buildings 13 and 108, respectively

GCL did not see documentation regarding the installation, removal, or replacement of ASTs at the NCDC facility. However, GCL did review MDE records which documented a release from a 275-gallon AST associated with Quarters 9 (Building 90) located on Stone Court on June 13, 1993. It was reported that approximately 25 to 100 gallons of diesel fuel were released when the brass supply line below the tank was broken. The soils were removed to a depth of four feet around the tank. According to the MDE Observation Report, MDE instructions were given to NCDC personnel to aerate the contaminated soils every two weeks and treat the area with fertilizer.

GCL observed stained soil and a recent application of granular absorbent material under the AST behind Building 27. GCL also observed stained soil under six AST locations, most commonly at the filter connection, servicing housing units at Stone Court, including Building 93 (Quarters 15), Building 94 (Quarters 16 and 17), a unit labelled Building 96 (Quarters 19) but actually Building 95, Building 97 (Quarters 22), and Building 98 (Quarters 25).

The Prince George's County Fire and Rescue Training Academy also stores diesel fuel in a 225-gallon AST. Normally the tank contains approximately 100 gallons of fuel; however, at the time of the inspection on October 17, 1994, the tank was empty.

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#### 4.7.3 Septic Tanks

Four subgrade septic systems are currently in operation at NCDC and are associated with Buildings 64, 84, 22, and 127. According to Mr. Larry Deal, Structure 225, located in the recreational area by the pool house, was a former septic drain field. The drain field was capped and was converted to a sewer lift station which transfers the sewage via a force main to the County sewer system. In addition, Building 12, which has been demolished, was serviced by a subgrade septic system. Figure 4-10 depicts the locations of the septic systems delineated based on Navy documentation.

As-built drawings and documentation regarding the septic systems were not available; however, drawings used for contract bidding and awards were reviewed. The following is a description of each septic field, including the probable construction date, which was assumed to correspond with the building's original construction.

**Building 64** - A septic tank of unknown capacity and associated septic field is located on the northwest side of the building in the grassy area between the building and Ammon Drive. The septic system is presumed to be the original and constructed in 1959.

**Building 84** - A 500-gallon septic tank and associated field was installed in 1957; the tank was replaced with a 750-gallon tank in June 1974. The septic tank and drainage field are located on the property transferred to Prince George's County in 1980. The septic system is currently in use.

**Building 22** - A portion of an undated plan for the installation of a bathroom was reviewed for Building 22. The plan was not an as-built but specified minimum requirements for the installation of the septic system at this building. A 500-gallon septic tank was to be installed at a minimum of 8 feet from the northwest wall of the building, with the drainage field flowing to the north. The building was constructed in 1951. According to Mr. Deal, the septic tank was recently replaced with a 1,000-gallon tank.

**Building 127** - According to the Storm and Sanitary Sewer Plan, dated 1968 (revised in 1970, 1971, and 1993), a public restroom facility, built in 1960, located near the baseball and football fields is serviced by a septic system located between the building and Ammon Drive.

**Building 12** - A septic system associated with the former hobby shop crossed under Hooper Drive to the grassy area north of the building. The hobby shop was replaced with Building 214 in 1969, and no documentation was available regarding the closure of the septic system.

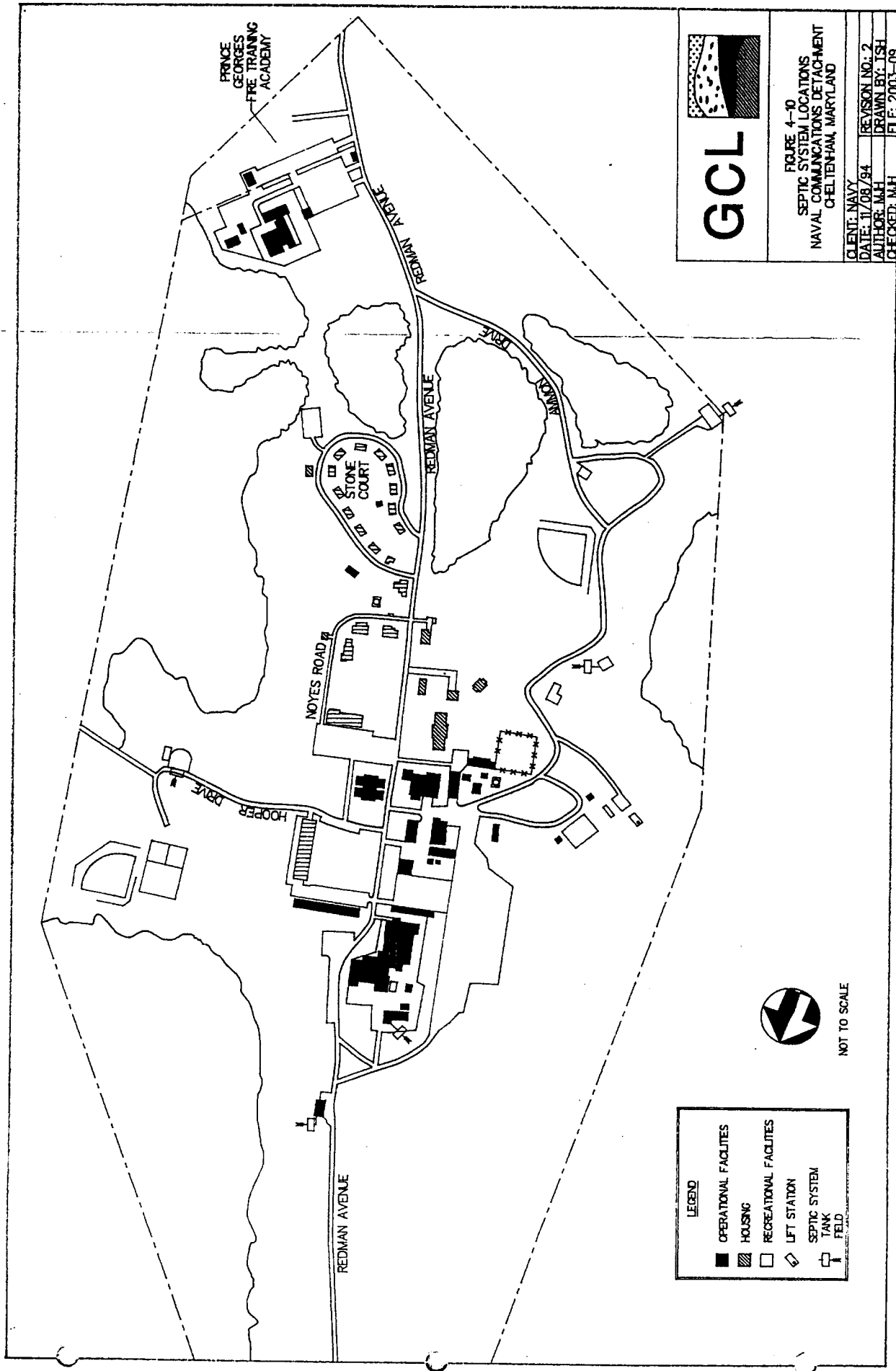


FIGURE 4-10  
SEPTIC SYSTEM LOCATIONS  
NAVAL COMMUNICATIONS DETACHMENT  
CHELTENHAM, MARYLAND

CLIENT: NAVY	REVISION NO.: 2
DATE: 11/08/94	DRAWN BY: JSH
AUTHOR: M.H.	CHECKED: M.H.
FILE: 2003-08	

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**Stone Court Housing** - According to Mr. Deal, septic tanks exist between alternating housing units located on Stone Court. Apparently, the former septic systems were back-filled with soil, as evident by the repair of a sinking concrete sidewalk. There is no documentation at NCDC confirming Mr. Deal's recollections. No physical evidence of the septic systems or distressed vegetation were observed at any of the locations.

**Buildings 1, 2, 3, 4, 13, and 14** - References were made to septic systems facilitating Buildings 1, 2, 3, 4, 13, and 14 in the archived wastewater treatment plant documentation (Section 4.8); however, systems at these locations were not confirmed.

Existing septic systems are not regulated by MDE or registered by the County Health Department. The Health Department does not require notification of closure or removal of septic systems, and there are no specific closure procedures required by County or State regulations. However, County permits are required for the installation of a new septic system, construction around septic systems, or modifications to an existing system.

#### 4.8 Wastewater Treatment and Disposal

**Sanitary Wastewater and Treatment** - Historically, NCDC operated its own wastewater treatment plant in the location of and prior to the construction of the Prince George's County Fire and Rescue Training Academy. GCL reviewed available archived Navy documentation regarding the former wastewater treatment system, which was constructed to service the former U.S. Naval Radio Station.

It was documented in the standard operating procedure that the effluent was tested for pH, chlorine (residual), settleable solids, and temperature. In addition as a standard operating practice for the operation and maintenance of the screening materials collected in the bar screens, the "screenings should be buried daily." Disposal locations of the "screenings" and the sludge were not identified in the documentation reviewed by GCL.

The sewage treatment plant discharged the effluent to Piscataway Creek under NPDES permit MD0025127. GCL reviewed the last Discharge Monitoring Report for the quarterly period of January 1 through March 31, 1977 which requested cancellation of the NPDES permit, as the point source discharge (sewage treatment system) was eliminated subsequent to the connection of the NCDC (formerly NCU) sewage system to the WSSC municipal sanitary system. According to Mr. Larry Deal, the sewage treatment plant was removed in approximately 1978; however, demolition and removal documentation was not available to GCL at the time of review. WSSC currently handles the treatment of the facility's wastewater treatment at their Blue Plains facility.



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**Industrial Wastewater** - Based on information obtained during NCDC personnel interviews and available records and files reviewed, industrial wastewater is currently not treated or discharged to the storm sewer system. In February 1986, EPA was in the process of issuing a final NPDES permit for discharge of cooling water and boiler washwater from the heating plant as well as area storm water. In April 1986, the Department of the Navy Chesapeake Division, Naval Facilities Engineering Command resubmitted a new NPDES permit application which included the discharges associated with the following operations and/or buildings:

- Non-contact cooling water from Building 2
- Boiler washwater from Building 2
- Outside fire truck washing
- Underground spring water
- Storm water

In August 1987, EPA issued a final NPDES permit (State permit 88-DP-2510, NPDES permit MD0001571). In January 1989, the discharge from Building 2 was redirected to the sanitary sewer system and Mr. T. C. Kenny of NCDC requested termination of the NPDES discharge permit. NCDC received confirmation from MDE terminating the permit on January 12, 1990. However, there was no correspondence with WSSC in the files reviewed approving or disapproving the discharge from Building 2.

According to the IDS, conducted in April 1994 for NCDC, Rust E&I located one illicit connection to the storm sewer at NCDC; the flow was identified during the dry weather inspections at Outfall 6, located west of the tennis courts (Structure 36), and at Outfall 5, located west of Building 1 (Figure 4-6). The flow at Outfall 6 was concluded to be the result of groundwater infiltration and the illicit discharge of boiler water from Building 15 into a catch basin. An oily sheen was observed in the flow and was concluded by Rust E&I to be the result of oil and grease runoff from vehicles.

The source of flow at Outfall 5 was not positively identified by Rust E&I. Dye testing was performed on the chiller tower and no illicit connection was identified. All potential indoor sources such as deep sinks, flow to the sanitary sewer, and roof drains were inspected and were dry. Analytical results from Outfall 5 showed low levels of all standard storm water pollution parameters with the exception of biochemical oxygen demand (BOD) and oil and

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grease which were below the method detection limits. Rust E&I suspects that groundwater infiltrates into the sewer system and results in the flow.

In a letter dated August 9, 1994, NCDC applied for coverage under Group Permit 92-GP-0001 for Industrial Stormwater Discharges and submitted a Notice of Intent (NOI) for Stormwater Discharges Associated with Industrial Activity Under the NPDES General Permit. As of October 31, 1994, NCDC was notified that they were accepted under the program and covered under the above-referenced Group Permit for Industrial Stormwater Discharges.

#### 4.9 Oil-Water Separator

One oil-water separator was observed behind Building 214, the location of the former hobby shop. It is currently used as an oil-water separator for the car wash rack rinse water. The oil-water separator is divided into three components: separator, sediment tank, and waste oil storage. The waste oil tank portion of the oil-water separator is currently listed with a capacity of approximately 550 gallons; however, a 1987 listing of tanks at NCDC listed the capacity as 275 gallons. The tank is constructed of fiberglass and was installed in 1983. The tank's condition is unknown and there is no record of the last time the tank was cleaned and drained.

MDE files document a petroleum release associated with overfill of the waste oil tank at Building 214. It was reported that approximately five gallons of oil were released and soils were excavated and aerated at an undisclosed location at the facility. The aeration of the contaminated soil was considered to be sufficient remedial action by MDE.

#### 4.10 Asbestos

Asbestos is a naturally-occurring mineral fiber that is known to cause a number of diseases, including lung cancer, when inhaled or ingested. Friable asbestos, which according to EPA can be released through the exertion of hand pressure, is found in such materials as spray-applied fireproofing and pipe insulation. Non-friable asbestos, which cannot be pulverized by hand pressure, is found in vinyl floor tiles, roofing materials and some cement panels. Although asbestos is currently banned by EPA, stockpiled building materials remain in use.

Material generally accepted as being suspect ACM includes friable and non-friable materials listed in Table 4-2. It should be noted that all material that is suspected of containing asbestos is included in this discussion and only sampling procedures conducted in accordance

Table 4-2

## Suspect Asbestos-Containing Materials

Cement Pipes	Elevator Brake Shoes
Cement Wallboard	HVAC Duct Insulation
Cement Siding	Boiler Insulation
Asphalt Floor Tile	Breeching Insulation
Vinyl Floor Tile	Ductwork Flexible Fabric Connections
Vinyl Sheet Flooring	Cooling Towers
Flooring Backing	Pipe Insulation (corrugated air-cell, block, etc.)
Construction Mastics (floor tile, carpet, ceiling tile, etc.)	Heating and Electrical Ducts
Acoustical Plaster	Electrical Panel Partitions
Decorative Plaster	Electrical Cloth
Textured Paints/Coatings	Electric Wiring Insulation
Ceiling Tiles and Lay-in Panels	Chalkboards
Spray-Applied Insulation	Roofing Shingles
Blown-in Insulation	Roofing Felt
Fireproofing Materials	Base Flashing
Taping Compounds (thermal)	Thermal Paper Products
Packing Materials (for floor/wall penetrations)	Fire Doors
High Temperature Gaskets	Caulking/Putties
Laboratory Hoods/Table Tops	Adhesives
Laboratory Gloves	Wallboard
Fire Blankets	Joint Compounds
Fire Curtains	Vinyl Wall Coverings
Elevator Equipment Panels	Spackling Compounds

NOTE: This list does not include every product/material that may contain asbestos. It is intended as a general guide to illustrate various types of materials which may contain asbestos.

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with the Asbestos Hazard Emergency Response Act (AHERA) protocols would confirm the presence of ACM. GCL's site screening for suspect ACM did not include sampling for verification of asbestos. In addition, inspection of all spaces within the facility was not conducted, as secured areas for communication operations were not accessible. Further, one representative housing unit per housing style was inspected for characterization of that type and vintage unit. Table 4-3 presents a summary of suspect ACM observed at NCDC in operational, housing, and recreational facilities. The discussion of suspect ACM is organized by operational, housing, and recreational facilities; Table 4-3 presents a summary of the suspect ACM observed at NCDC.

### **4.11 Polychlorinated Biphenyls**

PCBs can be associated with fluids in transformers, capacitors, circuit breakers, hydraulic equipment, lubricants, cutting oils, ballasts, vacuum pumps, heat transfer systems, plasticizer applications, electric magnets, etc.

Historically, there were eight electrical substations containing transformers and two associated switching stations, of which transformers at six substations and the two switching stations contained PCBs. However, all transformers were treated as containing PCBs and were removed from the site and replaced with non-PCB transformers at the same locations. These PCB transformers were located at Buildings 1, 2, 13, 31, 84, 121, and 230 and at Stone Court near Water Tower 107. The switching stations are located at the intersection of Redman Avenue and Ammon Drive and behind Building 31. There were also capacitors located at the facility which contained PCBs; these capacitors were located in the Communication Center at Building 1. However, according to Mr. Ridgeway and information in the files reviewed, the NCDC facility has been "PCB-free" since November 23, 1992. Based on MDE Hazardous Waste Manifests on file, dated January 1984 through December 1992, NCDC contracted the removal, transport, and disposal of PCB-containing transformers, oils, and associated wastes generated during the conversion.

Currently, there are transformers located at eight substations at Buildings 1, 2, 13, 31, 84, 121, and 230, and Stone Court and at two switching stations located northwest of Building 31 and at the intersection of Ammon Drive and Redman Avenue. Transformers, capacitors, and fluorescent units that do not use PCB-containing oils are generally identified by labels bearing the words "No PCBs"; however, the words "No PCBs" did not appear on the units observed. Figure 4-7 illustrates the locations of the substations and switching stations.

Table 4-3

List of Suspect Asbestos-Containing Materials  
Observed in the NCDC Facilities

Building No.	Building Use	Suspect ACM Observed
<b>Operational</b>		
1	Admin/Research	Duct joiner, mud elbows, floor tile and mastic, tank insulation
3	EM Dining Facility	Tank insulation, floor tiles and mastic, lay-in ceiling tiles
13	Special Services	Floor tiles and mastic, ceiling tiles, wall tiles and mastic, tank insulation
14	P.W. Shops	Floor tiles and mastic, wall board and tape
19	Office/Chapel	Floor tiles and mastic, lay in ceiling tiles, duct joiner
22	Gas Station	Floor tile and mastic, ceiling tile, wall board
31	Administration	Floor tile and mastic, ceiling tile, tar warp, duct mastic
50	Administration	Ceiling tile, floor tile and mastic
55	Comm. Control Link	Floor tile and mastic
64	P.W. Storage	Mud elbow, floor tiles and mastic
84	NISC RF Comm.	Ceiling tile, floor tile mastic
110	P.W. Maintenance	Floor tile and mastic
111	General Maintenance	Ceiling tile, wall board in storage
216	Gatehouse	Floor tile and mastic
<b>Housing</b>		
4	Quarters I,J,K,L,M,N	Floor tile and mastic, sheet flooring, plaster
27	Laundry and Storage	Ceiling tile
32	Quarters C and D	Floor tile and mastic, sheet flooring, plaster, tank insulation, ceiling tile, tar wrap
49	Bach. Officer Quarters	Floor tile and mastic, spray on ceiling (popcorn) wall board
86	Quarters 1	Floor tile and mastic, plaster
87	Quarters 2 and 3	Floor tile and mastic, plaster
88	Quarters 4 and 5	Floor tile and mastic, plaster
89	Quarters 6 and 7	Floor tile and mastic, plaster
90	Quarters 8 and 9	Floor tile and mastic, plaster
91	Quarters 10 and 11	Floor tile and mastic, plaster
92	Quarters 12 and 13	Floor tile and mastic, plaster
93	Quarters 14 and 15	Floor tile and mastic, plaster
94	Quarters 16 and 17	Floor tile and mastic, plaster
95	Quarters 18 and 19 (18)	Floor tile and mastic, plaster
96	Quarters 20 and 21 (19 and 21)	Floor tile and mastic, plaster

Table 4-3

List of Suspect Asbestos-Containing Materials  
Observed in the NCDC Facilities (Continued)

Building No.	Building Use	Suspect ACM Observed
97	Quarters 22 and 23 (20 and 22 and 23)	Floor tile and mastic, plaster
98	Quarters 24 and 25	Floor tile and mastic, plaster
100	Quarters A	Floor tile and mastic, sheet flooring, plaster, tank insulation, ceiling tile, tar wrap
101	Quarters B	Floor tile and mastic, sheet flooring, plaster, tank insulation, ceiling tile, tar wrap
102	Quarters E	Floor tile and mastic
103	Quarters F	Floor tile and mastic
104	Quarters G	Floor tile and mastic
105	Quarters H	Floor tile and mastic
230	Enlisted Officers	Wall board and tape
Recreational		
10	Boy Scouts	Floor tile and mastic, ceiling tile, wall board
79	Ladies Locker Room	Ceiling tile
127	Public Facilities	Ceiling tile
217	Mens Locker Room	Ceiling tile

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Inspections of the PCB-containing equipment at the eight substations and two switching stations were conducted quarterly. Based on the inspection reports reviewed from 1984 through 1992, incidents of leakage of PCB oil were documented. These incidents include the following:

- Building 1 (Substation 1) - From 1988 to July 1990, the drain valve on a transformer (serial number 646791) was reported as "moist." On July 16, 1990, a leak from the valve was identified and an unknown quantity of oil leaked from the transformer. MET Electrical Testing Company, Inc. of Baltimore, Maryland responded to the request to inspect and sample a suspected leaking transformer. MET confirmed that the transformer contained PCBs as it was identified by its serial number as a 1,000 kilovolt amps (KVA) General Electric Pyranol Transformer. "Pyranol" was General Electric's trade name for PCB fluid.

Wipe and soil sampling were conducted around the release. The results ranged from 0.7 to 223.5 micrograms per 100 square centimeters for the wipe samples and 17.3 and 228.9 parts per million (ppm) for the soil samples. In the July 27, 1990 report, MET recommended that additional decontamination be conducted on areas where the PCB concentrations exceeded 100 microgram per 100 square centimeters on concrete surfaces and/or 25 milligrams per kilogram (mg/kg) in the soil, EPA's clean-up criteria for outdoor substations.

A memo dated July 25, 1990 documented two phone conversations between Mr. Ridgeway and Mr. Jim Robinson of EPA Region III and Mr. Chambers of Maryland EPA. Mr. Ridgeway notified each party of the PCB release, testing, and clean-up. It was also noted that the additional clean-up of concrete would take place when the PCB transformers and network protectors were replaced.

There was record of a Uniform Hazardous Waste Manifest (MDC 0363766) which documented the transport and disposal of 32 containers of PCB-contaminated soil and liquid. References were made to contract awards for the remediation; however, GCL did not see follow-up documentation for soil and/or concrete removal in the areas where the PCB concentrations exceeded EPA's criteria for outdoor substations (i.e., on the concrete approximately five and 12 inches from the transformer and in the soil located outside and between the fenced area and the sidewalk) or documentation for

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confirmation sampling subsequent to removal of the impacted media. According to Mr. Ridgeway, the impacted area has been "cleaned-up".

- Redman and Ammon Intersection Switching Station - During the August 29, 1990 quarterly inspection, a trace leak was observed on the backside panel of a transformer located at the intersection of Redman Avenue and Ammon Drive. There was no report of any immediate action taken regarding the leak; however, during the next quarterly inspection (October 22, 1990) a tarry substance was observed on the ground. A swab test was conducted and the results indicated no PCBs present.

The inspection reports for the remaining substations indicated that no leaks were detected from 1988 through 1992. There were no inspection reports for the capacitors located in Building 1 for 1991 and 1992. Since the facility was deemed "PCB-free," there were no inspection reports on file for 1993 or 1994.

From 1984 to 1994, there were seven hazardous waste manifests addressing waste PCBs with a total of approximately 128,000 pounds shipped off-site; however, the specific nature of the wastes (e.g., transformers, capacitors, other electrical equipment) is unknown.

Fluorescent lighting units with ballasts manufactured before 1978 often use PCB-containing dielectric cooling fluids. There were fluorescent lighting units observed at the facility in all buildings. The construction date of the buildings correspond with the period when PCB-containing ballasts were manufactured. The words "No PCBs" did not appear on the units.

#### 4.12 Pesticides

No pesticide handling, storage, or application to the grounds is conducted at NCDC. However, over-the-counter chemicals, such as weed killers, rose disease control compounds, and insecticides used for residential use, were observed to be stored in Building 14 (paint storage room) and Building 110B (corrosive storage trailer). According to Mr. Ridgeway, large scale applications of pesticides involving insecticide handling and application, such as extermination in the interior of building(s), is contracted to the Washington Navy Yard on an as-needed basis.



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#### 4.13 Radioactive Materials and Mixed Waste

Radioactive materials and mixed waste are not present at NCDC other than in old "EXIT" signs which contain a minimal amount of radioactive material. Mr. Ridgeway has tried to dispose of the signs through DRMO; however, DRMO is not willing to accept the signs for disposal.

#### 4.14 Radon and Radiation

**Radon** - Radon is a colorless, odorless gas produced as a radioactive decay by-product of the naturally occurring element radium. Radon can be produced from both subterranean sources and building products composed of these materials. A poorly ventilated building prevents radon from escaping and provides an environment for radon concentrations to accumulate.

During October 1992, alpha track radon canisters were placed in various locations of buildings that were occupied a minimum of four hours per day. Buildings selected for testing included operational, housing, and recreational facilities located on the core base, i.e., Buildings 1, 2, 3, 13, 14, 15, 19, 22, 31, 49, 50, 84, and 230.

Radon testing results for the core base buildings were reported at less than 3.0 picocuries per liter (pCi/L). EPA considers radon levels of 4 pCi/L a recommended action level.

**Radiation and Building 31** - GCL personnel reviewed a file pertaining to the basement of Building 31 that included information such as site history; personnel complaints; documented cases of leukemia and respiratory and urinary tract illnesses among Building 31 personnel; and evaluations conducted by the Navy and other firms regarding ambient air quality, humidity, ventilation, water, radiation, radon, asbestos, and formaldehyde concentrations. Significant modifications to the building were made based on recommendations resulting from the evaluations, such as carpet removal in the basement; repairs to air handling systems; painting of the walls and ceilings; provision of bottled water; encapsulation of asbestos in mechanical rooms; repairs to damper control systems; repairs to the exterior drainage system to avoid water accumulation near the fresh air intake; and overall air quality and ventilation improvements. There was no information included in the file subsequent to July 1990 to evaluate the impact of site improvements.

Based on a review of NCDC's radiation file, a radio frequency (RF) radiation survey was performed for Building 31 on August 3, 1989. The purpose of the investigation was to measure the ambient RF and radiation from emitters located on-site and to determine if the

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levels of RF radiation being emitted exceeded permissible exposure limits (PEL). The preliminary results, dated August 15, 1989, were included in the file which indicated no RF levels between the frequency range of 0.5 megahertz and 6 gigahertz were measured and therefore "no personnel are exposed to levels of 60 hertz electromagnetic energy that are considered beyond normal."

#### 4.15 Lead

##### 4.15.1 Lead in Paint

A formal base-wide survey for lead paint has not been conducted at NCDC. However, paint chip sampling was implemented as a result of reported elevated lead levels in the blood of children living in Quarters H (Building 105). Paint chips were tested in Quarters H and were reported at concentrations below the acceptable guidance levels issued by the U.S. Department of Housing and Urban Development (HUD) of less than 0.5 percent by weight. According to a chronology of events maintained in NCDC's files for lead contamination, it was noted in May 1993 that the change of occupancy at Quarters H was to include the abatement of lead paint even though concentrations were below acceptable levels. The lead-based paint in Quarters H was not abated but sealed to minimize exposure, according to Mr. Ridgeway.

Quarters J, located in Building 4, was the next housing unit to report two children with elevated blood lead levels. Upon testing, unacceptable lead concentrations were discovered in the baseboards. NCDC tested additional housing units where families with children were residing and advised the families on the procedure for getting their children tested for lead concentrations in the blood. Paint chip samples were collected in August 1993 in housing units 1, 2, 10, and 11; and in September 1993 in Quarters A, E, G, H, I, K, L, M, N, 10, 14, 15, 16, 17, 21, 23, 3, 7, and 8, where children were located. The following quarters displayed paint chip test results which exceed the HUD guidelines of 0.5 percent: Quarters A (Building 100) - play room baseboard; Quarters L (Building 4) - child's bedroom window sill; Building 4 - window sill landings, Quarters 16 (Building 94) - front porch; and Quarters 3 (Building 87) - landing/front door.

Additional sampling was conducted in October 1993 for two housing units where a newborn (Quarters 6) and an expectant mother (Quarters 18) were residing in Buildings 89 and 95, respectively. The sample results were below the HUD guidance level.

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#### 4.15.2 *Lead in Soil*

Soil samples were collected in July 1993, in the vicinity of the two water towers on base for lead analysis. Results of the soil sampling indicated lead in the soils around Tower 7 ranged between 70 mg/kg and 2,200 mg/kg and around Tower 107 between 58 mg/kg and 4,600 mg/kg. Public works personnel had knowledge that a water tower in the housing area was covered with lead paint; however, the water tower had been sand blasted in the past, most recently in the 1980s. It was estimated that approximately 700 pounds of lead per tower were released to the soil. The housing residents were notified of the soil lead hazard on August 2, 1993. Subsequent to confirmation, lead hazard signs were posted on the fence around each water tower.

Additional soil sampling was conducted in September 1993 in the vicinity of the picnic and housing areas and water and microwave towers. The sample results revealed lead concentrations at Tower 7 ranging from less than 5 mg/kg to 1,800 mg/kg, and lead concentrations in the soil at Tower 107 ranging from 12 mg/kg to 12,000 mg/kg. The lead concentrations in soil located around the microwave tower range between less than 5 mg/kg to 270 mg/kg.

Halliburton NUS (HNUS) issued a draft Engineering Evaluation and Cost Estimate dated September 1994 for a lead removal action at the two water towers. Paint chip samples from the water towers, the source of the soil contamination, revealed concentrations between 94,900 mg/kg at Tower 107 and 194,000 mg/kg at Tower 7. HNUS conducted additional soil sampling to further define the vertical and lateral extent of soil contamination and based their cost estimate on a clean-up objective of 230 mg/kg lead in soil. The HNUS report defines the lead contamination to be shallow and within the top six inches of soil. The lead contamination at concentrations exceeding 230 mg/kg near Tower 7 covers an area which includes the basketball courts, Building 33, and the southeastern section of Building 111. The lead in soil at concentrations exceeding 230 mg/kg near Tower 107 covers an area extending from Building 102, 103, 104 to east of Building 65. The approximate extent of lead contamination at concentrations exceeding 230 mg/kg is illustrated on Figure 4-7.

#### 4.15.3 *Lead in Drinking Water*

The NCDC potable water supply system is provided by two wells, located at Buildings 9 and 108, which service all operational, housing, and recreational facilities at NCDC and the Fire Training Academy. Sampling for lead at the drinking water coolers was initiated in 1988. Results of the water cooler sampling indicated lead concentrations ranging from less than

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0.05 milligrams per liter (mg/L) to 0.09 mg/L, with only 12 sampling locations indicating lead concentrations above the laboratory detection limit of 0.05 mg/L.

Sampling for lead and copper in drinking water was conducted on July 14, 1993, as requested by MDE. Drinking water samples were collected in Buildings 1, 3, 31, 50, and 84, and in Quarters 5, 10, 12, 13, 15, 17, A through H, and J. The lead concentrations in the operational facilities ranged from 0.0004 mg/L at Building 50 to 0.027 mg/L in Building 3. Analytical results at the housing units ranged between 0.001 mg/L in Quarters E (Building 102) to 0.014 mg/L in Quarters 13 (Building 92). The report containing these results stated that the Cheltenham water system is below the Maryland action level for lead, defined as when ten percent or more of the representative samples exceed 0.015 mg/L. Mr. Ridgeway conducted the drinking water sampling in accordance with the guidance provided by MDE and, as required, the water was not disturbed for 24 hours and each sample was collected from the first draw of the source.

#### 4.16 Uncontaminated Properties within the meaning of CERFA

CERFA defines an "uncontaminated property" as any real property on which no hazardous substances or petroleum products or their derivatives, including aviation fuel and motor oil, were stored for one year or more, and no hazardous substances or petroleum products are known to have been released or disposed of.

The "uncontaminated properties" at NCDC, as defined by CERFA, and the remaining properties are illustrated on Figure 4-11. Buffer zones were established around the perimeter of the "contaminated properties" to allow for any migration of contaminants from areas designated with known or likely environmental concerns. The buffer zones will be further delineated in future investigations. The areas designated as "uncontaminated properties" are delineated as the areas located at the perimeter of the base, with the exception of the areas of Buildings 31, 84, 214, 10, and 22, the Fire Training Academy, and the switching station located at the intersection of Ammon Drive and Redman Avenue, as well as the associated buffer zones. The "uncontaminated properties" include recreational facilities, wooded areas existing on the outlying areas of the base, and the area adjacent to the segment of Redman Avenue located southeast of Stone Court, north and west of Building 64, and north and east of Building 50.

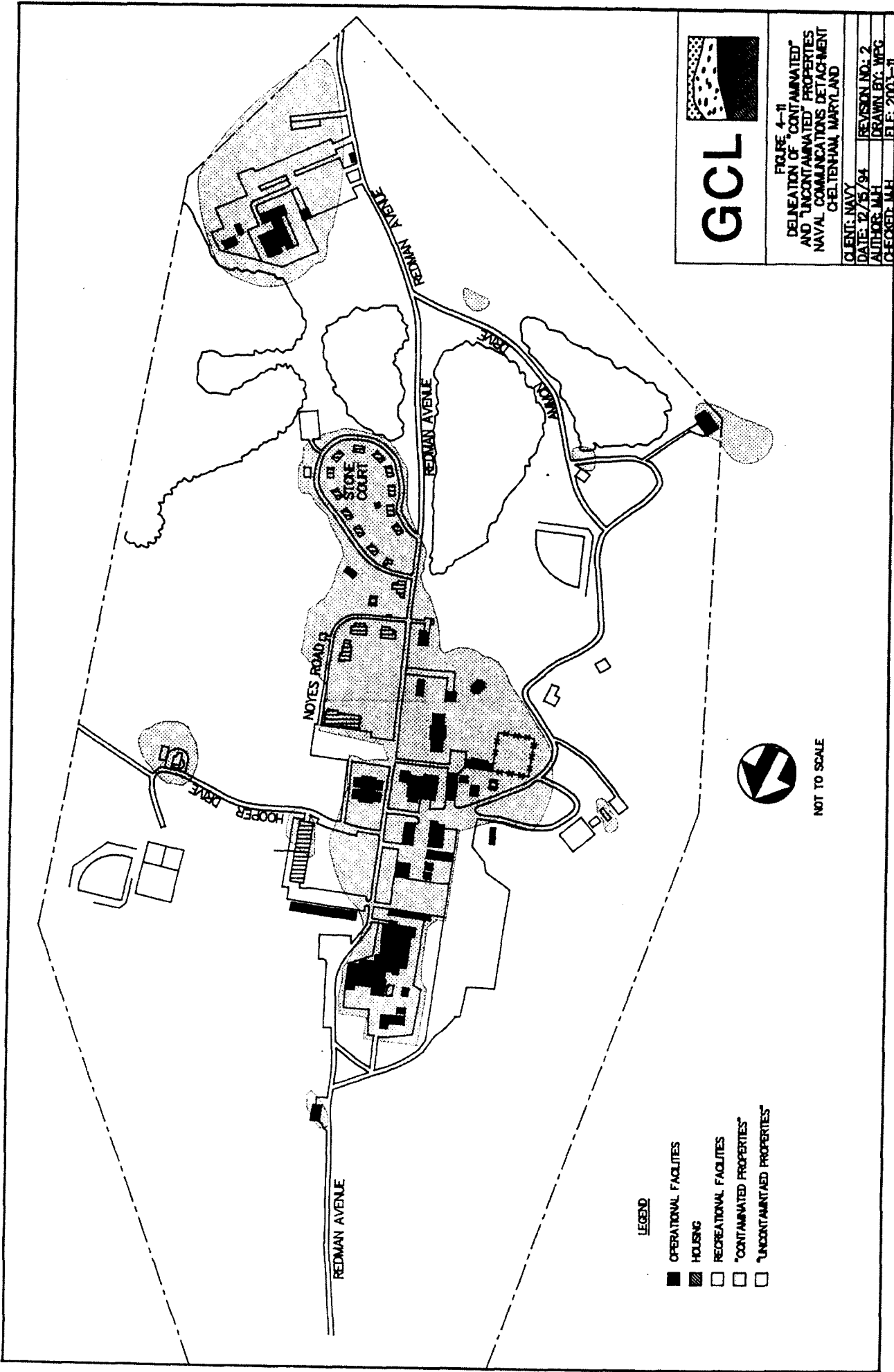


FIGURE 4-11

DELINEATION OF "CONTAMINATED"  
AND "UNCONTAMINATED" PROPERTIES  
NAVAL COMMUNICATIONS DETACHMENT  
CHELTENHAM, MARYLAND

CLIENT: NAVY	REVISION NO: 2
DATE: 12/15/94	DRAWN BY: WEG
AUTHOR: M.H.	CHECKED: M.H.
FILE: 2001-11	

000157108Y

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### 4.17 Remaining Properties

The remaining properties are considered "contaminated properties" and are illustrated on Figure 4-11. The remaining properties are described below:

- Building 2 Area - Storage of petroleum since 1957; petroleum release, groundwater monitoring, and limited remediation conducted; discharge of boiler clean-out water to the deteriorated sewer lines potentially impacting the subsurface; and former PCB transformers located at Substation 2
- Building 4 Area - Former storage of PCB transformers in operation at Substation 3 and confirmed lead paint contamination
- Building 13 Area - Storage of hazardous materials (flammable storage cabinet and Melwood Custodial Services supply storage); former storage of PCB transformers at Substation 7; and petroleum storage since 1957
- Building 14 Area - Paint room utilized as satellite storage area for large quantities of hazardous substances
- Building 15 Area - Hazardous substances storage area (exterior, under shelter) and petroleum storage, formerly located east of Building 15 (Building 215), from 1977 to 1992
- Building 64 Area - Hazardous substances storage area including acid batteries located in the Battery Room and petroleum storage on the interior, (day tank servicing the generators) and exterior (8,000-gallon diesel AST) since 1994
- Building 3 Area - Verified petroleum storage since 1988
- Building 10 Area - Two empty flammable storage cabinets were observed during the field reconnaissance of the EBS; in addition, GCL observed an empty 55-gallon drum overlying a white powder of unknown origin
- Building 1 and Cooling Tower Area - Hazardous materials storage in the mechanical room; former location of PCB transformers at Substation 1; reported release of PCB transformer oil, confirmed to have impacted the concrete pad and soil; stained and wet flooring observed near the floor drain area by the condenser pumps; release of an unspecified amount of descalant

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behind Building 1 in November 1993; and second floor of Building 1B was former location of unspecified size tank/container of solvent used for degreasing

- Building 19 Area - Storage of petroleum at two locations from 1962 to 1989 and 1992, and petroleum release resulting in removal of subsurface soils, monitor well installation, and sampling
- Building 22 Area - Storage of petroleum (date of tank installation is unknown)
- Buildings 110A and 110B Area - Satellite accumulation areas for hazardous materials including large quantities of flammable and corrosive compounds
- Building 84 Area - Storage of petroleum from 1957 to 1990 and former storage area for PCB transformers at Substation 5
- Building 230 Area - Storage area for hazardous substances (flammable storage cabinet); former storage of PCB transformers operational at Substation 8; and petroleum storage since 1988
- Building 214/Former Building 12 Area - Hazardous substance storage in Building 214; storage of waste oil, associated with the oil-water separator, verified since 1983; petroleum-stained surficial soil observed on the southeast side of Building 214; and storage of petroleum assumed at former Building 12
- Building 11 and Storage Courtyard - Storage of old appliances, tools, motors, and a heat exchanger, all of which typically contain oils, possibly contaminated with PCBs and freon; storage of vintage air conditioners located in the interior of Building 11 which have the potential to contain freon; and documented storage area for hazardous waste
- Water Tower 7 Area - Lead contamination present in surficial soils in areas of the tennis courts (Structure 36) and Buildings 33 and 111
- Building 122 Area - Potential area for storage of hazardous materials utilized for pool filtration prior to pool demolition in 1993
- Water Tower 107 and Building 108 Area - Storage of hazardous materials consisting of a chlorine cylinder utilized for water treatment; former storage

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of PCB transformers at Substation 4, adjacent to the Water Tower 107; petroleum storage associated with the generator located in the vicinity of Building 108; and lead contamination confirmed in surficial soils (at a concentration exceeding 230 mg/kg) in the area of Buildings 102, 103, and 104

- Buildings 31/231/40 Area - Limited storage of hazardous materials in the mechanical room of Building 31; former location of PCB-containing equipment located at Switching Station 6 located north of Building 31; and petroleum storage verified at Buildings 31, 40, and 231 since 1951
- Prince George's County Fire and Rescue Training Academy/Former NCU Wastewater Treatment Facility Area - Temporary storage of hazardous materials; petroleum storage at the training facility to fuel the associated emergency vehicles; documented historic disposal of screenings at unknown locations, assumed to be in the vicinity of the former wastewater treatment plant; and former permitted discharge of treated sewage effluent to Piscataway Creek
- Stone Court Housing/Buildings 27, 102 through 105, and 49 and Quarters 9 (Building 90) Area - Petroleum storage since 1937; petroleum release reported for Quarters 9 and 49 resulting in the removal of contaminated soil; petroleum staining of surficial soils observed at Building 27; and lead contamination in soil located at Buildings 103 and 104 area
- Intersection of Ammon Drive and Redman Avenue Area - Former storage of PCB-containing equipment located at the switching station
- Former Landfill/Burn Pit Area - PA conducted by NEESA regarding former landfill and burn pit area to determine the potential for an adverse impact to the environment

### *4.17.1 Properties That Do Not Require Remedial Action*

The "remaining properties," properties which are not defined as "uncontaminated" under CERFA, and do not require remedial action, to date, include the following:

- Building 14 Area



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- Building 10 Area
- Building 110A and 110B
- Building 11 and Storage Courtyard
- Building 3 Area
- Building 122 Area
- Building 22 Area
- Prince George's County Fire and Rescue Training Academy

### *4.17.2 Properties Where Required Remedial Action Has Been Taken*

The "remaining properties," properties which are not defined as "uncontaminated" under CERFA, where remedial action has been taken include the following:

- ***Petroleum Releases***
  - Building 214 - Removal and aeration or disposal of contaminated soil related to a five-gallon oil release in the rear of Building 214 (MDE case closed)
  - Building 2 - Upon removal of former USTs, contaminated soil was removed, monitor wells installed, and groundwater sampled (MDE case closed)
  - Building 15/215 - Contaminated soil removed and monitor well installed subsequent to verification of petroleum release (MDE case closed)
  - Building 19C - Contaminated soil removed and one groundwater monitor well installed subsequent to the removal of an UST (MDE case closed)
  - Building 64 - Contaminated soil removed during removal of one 300-gallon No. 2 diesel UST (MDE case closed)

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- Building 84 - Contaminated soil removed during removal of 1,000-gallon diesel UST
- Building 49 - Contaminated soil removed subsequent to the removal of one 1,000-gallon diesel UST
- Quarters 9 (Building 90) - Contaminated soil removed subsequent to a petroleum release from one 275-gallon heating oil AST; NCDC directed by MDE to aerate the contaminated soils every two weeks and treat the area with fertilizer
- *PCBs*
  - Transformers and Equipment - Removal of PCB transformers and equipment from six of the eight substations and the two switching stations
- *Lead*
  - Survey - Lead survey conducted at the majority of the residential facilities, i.e., Building 100 (Quarters A), Building 102 (Quarters E), Buildings 103 through 105 and Building 4 (Quarters G through N), Building 91 (Quarters 10), Buildings 93 and 94 (Quarters 14 through 17), Buildings 96 and 97 (Quarters 21 and 23), Buildings 87 and 89 (Quarters 3 and 7), and Building 90 (Quarters 8); sampling was not conducted at all of the above-referenced locations, only portions of buildings
  - Exposure Minimization - According to Mr. Ridgeway, lead paint surfaces were sealed in Quarters H (Building 105) to minimize lead exposure, even though the lead paint concentrations were below HUD guidelines
- *Asbestos*
  - Survey - Asbestos survey conducted "base-wide" according to Mr. Ridgeway; however, GCL did not see documentation confirming the survey. GCL did review documentation pertaining to an asbestos survey of Buildings 1, 3, 31, and 50

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- Abatement - Limited asbestos abatement was conducted at Buildings 1, 3, 31, and 50 in approximately 1992 according to Mr. Ridgeway; Building 2 abatement for asbestos was confirmed by the "No Asbestos" stickers on the piping; GCL did not see documentation pertaining to the above-referenced abatement

#### *4.17.3 Properties Which Require Remedial or Other Action That Has Not Yet Been Taken*

The "remaining properties," properties not defined as "uncontaminated" under CERFA, that require remedial or other action that has not yet been taken include the following:

- *Petroleum Storage*
  - Building 31 - Remove the 3,000-gallon tank since NCDC personnel reported that the tank takes on water even though it tested tight in 1993; NCDC budgets an average of \$20,000 per tank removal which is estimated to include contaminated soil excavation. This cost, however, does not reflect the installation of groundwater monitor well(s) or typical groundwater monitoring costs usually required by MDE upon verification of contamination. In addition, investigate piping observed adjacent to the elevated concrete slab to determine the purpose and any potential associated contamination
- *Lead Contamination Removal*
  - Abatement - Survey housing units proposed to be inhabited in the future; a budget cost estimate for a lead survey is \$350 to \$500 per housing unit and lead abatement in housing units is estimated to range from between \$4,000 to \$12,000. The high end of the range includes some structure replacement such as window casings. Lead paint in operational facilities should also be evaluated, identified, and abated if renovation activities would impact the painted surfaces. Lead surveys including sampling may range in cost from \$350 to \$1,000 per building, based on the amount of sampling and analyses required.
  - Areas of Water Towers 7 and 107 - Removal of lead in soil at concentrations exceeding 230 mg/kg is estimated to cost approximately \$415,125. This work is proposed to be completed in May or June 1995.

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- *PCBs*

- Building 1 - Substation 1 - Characterization and remediation of PCB-contaminated soil and concrete from the vicinity of Substation 1 if no documentation can be found confirming prior excavation and disposal of all PCB-contaminated media to acceptable levels. According to Mr. Ridgeway, the PCB-contaminated soil and concrete have been "cleaned-up". GCL did not see any follow-up documentation regarding post-remediation PCB concentrations; however, GCL did review a hazardous waste manifest documenting the transport and disposal of 32 containers of PCB-contaminated liquids and solids but the source was not identified. If it is confirmed this area has not been adequately remediated, the cost to do so would be on the order of \$5,000 to \$25,000.

- *Asbestos*

- Operational Facilities - Removal of confirmed friable ACM; suspect ACM was located at pipe joints; floor, ceiling, and wall tiles; mastic; tank insulation; wall board and tape; and tar warp, the majority of which was not friable.
- Housing Facilities - Removal of confirmed friable ACM; suspect ACM was located at pipe joints; floor, ceiling, and wall tiles; mastic; tank insulation; wall board and tape; tar warp; and spray-on ceiling (popcorn) wall board; sheet flooring; and plaster, the majority of which was not friable.
- Recreational Facilities - Removal of confirmed friable ACM; suspect ACM was located in floor tile and mastic, ceiling tiles, and wall board, the majority of which was not friable.
- Survey - Conduct a base-wide asbestos survey, including all operational, housing, and recreational facilities. A complete survey of the facility could be conducted within a narrow time frame for approximately \$40,000, and from this information, software programs could be utilized which compute the estimated cost for removal of ACM positively identified in the survey.

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- *Other Areas of Concern*

- Building 2 Area - Evaluate the subsurface conditions in the areas adjacent to the reportedly deficient and aged sewer lines used to discharge the boiler clean-out solution.
- Former Landfill/Burn Site - Characterize the former landfill/burn site, even though the area is no longer owned by the Navy, as this area may be a potential source of contamination. According to the documents reviewed, sampling at the former landfill area was not conducted, as NEESA recommended in the PA that no further action be taken. However, if this area is determined to be a source of contamination, the Navy will be the Potentially Responsible Party (PRP). Sampling the soil and groundwater in the vicinity of the landfill/burn area would confirm the absence or presence of a potential liability.
- Building 1 Area - Conduct a subsurface evaluation to determine the impact of the release of water coolant chemicals behind Building 1.

Limited site characterizations conducted for the above-referenced areas, to include limited sampling and analysis and preparation of a report, would be on the order of \$10,000 to \$100,000 per area.

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### **5.0 Summary of Data (Adjacent Properties)**

The properties located immediately adjacent to the NCDC facility are the following:

- Department of Energy (DoE) - Maryland Relay Station
- Cheltenham Wetlands Park
- Boys Village of Maryland/Cheltenham Youth Facility

Figure 2-3 illustrates the locations of the adjacent properties. The information regarding the properties adjacent to NCDC was obtained through site inspections, interviews, environmental data base search, and review of tax maps and Prince George's County land ownership records.

### **5.1 History and Current Usage**

As discussed in Section 4.1, the original 559.05-acre parcel of land acquired by the United States of America for NCU in 1935 was reduced in size by approximately 333.19 acres in 1973. A 124.27 acre parcel of land was transferred to DoE for use as a communications relay station and the remaining 208.92 acres, which consists of two tracts of land along the northeastern and southern borders of the core base and both segments of Commo Road, were transferred to the Prince George's County Government for the preservation of wetlands. At one point, NCDC, Prince George's County, and Boy's Village of Maryland properties intersect at the southeastern segment of Commo Road. Therefore, Boy's Village, also referred to as the Cheltenham Youth Facility, is included as an adjacent property to NCDC (Figure 2-3).

Five aerial photographs, dated 1938, 1948, 1964, 1969, and 1994, were available to review the historical development of the adjoining properties. In 1938 and, 1948 the area surrounding NCDC consisted of agricultural areas and unimproved wooded lots. Residential areas were limited to isolated dwellings along the main roads including Dangerfield Road and Frank Tippet Road.

The 1964 oblique photograph reviewed does not illustrate the surrounding area completely; however, portions of the northern and southern boundary are visible. The northern area appears to have had a neighborhood of detached dwellings on both sides of the access road

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constructed since 1948. The 1964 southern boundary is wooded and does not include the southeastern segment of Commo Road.

The 1969 oblique photograph was taken at a slightly different angle than the 1964 photograph. Portions of the northern and southern boundaries present in the photograph did not change from 1964 to 1969. The 1969 photograph does, however, contain portions of the western boundary and the area appears wooded, with fewer isolated dwellings present than the northern development.

The 1994 color aerial photograph identifies the neighboring area to the north to be the same dwellings as those present in 1964. The remaining northern adjoining properties are wooded and plowed fields with no industry present. The eastern area is a wooded buffer zone between the site and a detached housing area. The southern segment of Commo Road is bordered to the north by what appears to be a bike trail, and on the south by open fields. Portions of the Boy's Village of Maryland property adjacent to the site consist of densely wooded areas. South of the site is an open field which appears to be inactive, and the housing development identified in the 1969 oblique photograph. The western boundary, adjoining the DoE site, is a road extending to fallow fields and isolated dwellings.

### *5.1.1 Department of Energy - Maryland Relay Site*

The DoE Maryland Relay Site is located immediately adjacent to NCDC and is used for DoE satellite communications operations. The site is currently occupied by DoE and operated by personnel from EG&G.

The site consists of an irregular-shaped parcel of approximately 124.27 acres. Site improvements consist of one approximately 12-foot by 30-foot cinder block building used to store communications equipment, one approximately 15-foot by 30-foot butler building used to house the emergency generator and an associated AST of unknown capacity, five high frequency (HF) antennae, and one satellite antenna. The vegetation is cleared in the vicinity of the buildings and the antenna field; however, the perimeter of the site is heavily wooded.

The only utility supplied to the site is electricity provided by NCDC. According to Ms. Jane Griegl, DoE, no other utilities are needed or used on-site.

County Assessor records document that the site is owned by the United States of America. The Maryland Relay site is zoned EC, commercial property exempt from State and County tax assessments.

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### 5.1.2 Cheltenham Wetlands Park

The area known as Cheltenham Wetlands Park was formerly owned by the Federal Government as part of the NCU site and was transferred to Prince George's County in July 1980. Currently the site is dedicated to protect natural wetlands and to provide the community an area to observe and study the flora and fauna characteristic of a wetlands ecosystem.

The site consists of two irregular-shaped parcels of approximately 192 acres to the northeast and south of the NCDC site. Site improvements consist of hand-crafted bridges and walkways through the park and gates and fences used for security. Wooden antenna poles and associated guide wires are still present on-site. The entire site is heavily vegetated and wooded except for the semi-cleared areas located around the antennae.

County Assessor records document that the site is owned by Prince George's County, and is zoned EC, commercial property exempt from State and County tax assessment.

### 5.1.3 Boy's Village of Maryland/Cheltenham Youth Facility

According to a tax map provided for the area by the Prince George's County Department of Assessments and Taxation, Boy's Village of Maryland appears to be an adjacent property to the NCDC facility at the intersection of NCDC property, the southeastern leg of Commo Road, and the northern tip of the Boy's Village of Maryland property (Figure 2-3). The section of the Boy's Village of Maryland property located downgradient and immediately adjacent to Commo Road is thickly forested.

Boy's Village of Maryland, also referred to as the Cheltenham Youth Facility, is operated by the State of Maryland Department of Juvenile Services. According to Mr. Preston Tillman, Chief of Facilities Maintenance of Boy's Village Headquarters, 39 buildings exist on the property. Electricity is provided to the facility by PEPCO, WSSC provides sanitary sewer service, and the Boy's Village of Maryland facility maintains and operates their own water supply. In interviews with GCL representatives, Mr. Tillman verified the presence of a Number 2 fuel oil UST; however, Mr. Tillman would not respond to additional questions and asked that a FOIA request be submitted to his office, located at the Maryland Department of General Services in Baltimore, Maryland. GCL submitted the request for additional information regarding this property but the Department of General Services has not yet responded. However, GCL has received a copy of correspondence from Mr. Tillman to Mr. John Buffington, the Superintendent of the Cheltenham Youth Facility,



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requesting the Superintendent's assistance in processing GCL's FOIA request for facility information. The requests are included in Appendix C.

### 5.2 Environmental Setting

The environmental setting in terms of hydrogeology and soils was previously discussed in Section 4.2.

#### 5.2.1 Wetlands

Extensive wetlands exist along the southern and southeastern property boundaries of NCDC and Prince George's County property, where Piscataway Creek flows along the east/southeast property boundary. According to the Fish and Wildlife Service Wetlands Map, dated April 1981, these wetland properties are classified in the palustrine ecological system, forested with broad-leaved deciduous vegetation and located in a water regime that is temporary and non-tidal. Significant wetlands were observed along the southern boundary of the Cheltenham Wetlands Park during the EBS survey.

#### 5.2.2 Topography

The DoE property lies at an elevation of approximately 220 feet above MSL. The topography of the area is predominantly flat-lying. No bodies of water are located on or flow through this property.

The portion of Cheltenham Wetlands Park located northwest of NCDC is situated at an elevation of approximately 200 feet above MSL. The topography of the area consists of moderate relief, sloping southward toward Piscataway Creek. An unnamed tributary of the Piscataway, located on the western section of the property, flows to the south. The portion of Cheltenham Wetlands Park located to the south of NCDC lies at an elevation of approximately 150 feet above MSL and slopes northeast towards Piscataway Creek to an elevation of approximately 140 feet above MSL.

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### 5.3 Adjacent Properties with No Known or Suspected Releases

The DoE Maryland Relay Site was identified as an adjacent property with no known or suspected releases to impact NCDC. The ERIIS environmental data base listed neighboring properties within a two-mile radius of NCDC which were also not a concern with respect to impacting the NCDC property.

#### 5.3.1 DoE - Maryland Relay Site

According to Mr. Al Taylor, EG&G, there has never been a known or suspected release of any petroleum product or hazardous substance at the 124.27-acre parcel owned by DoE (Figure 2-3). The only possible source of contamination is the 275-gallon AST that stores diesel fuel used to power the emergency generator. The DoE facility was not included on the environmental records search of the ERIIS data base identifying documented releases in the vicinity of NCDC.

#### 5.3.2 Neighboring Properties - ERIIS Data Base

**FINDS Sites** - The following sites, located within a two-mile radius of NCDC, are listed in the FINDS data base as tracked or regulated by EPA, but do not occur on any other data base listing, indicating that no known or suspected releases to the environment have been reported from these sites:

Chesapeake & Potomac Telephone  
8424 Woodyard Road  
Clinton, Maryland 20735-2043  
EPA ID#: MDD980722086

Clinton Park Cleaners  
8809 Woodyard Road  
Clinton, Maryland 20735-2754  
EPA ID#: MDD104743992

Coyles Cleaners  
8818 Woodyard Road  
Clinton, Maryland 20735-2754  
EPA ID#: MDD022543292

### 5.4 Adjacent Properties with Known or Suspected Releases

Adjacent properties identified with a known or suspected release include the Boy's Village of Maryland site, located south and presumably downgradient of NCDC, and the

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Cheltenham Wetlands Park. Neighboring properties within a two-mile radius were also identified during the EBS and in the ERIIS environmental data base with known or suspected releases that may have an impact on the NCDC property.

### 5.4.1 *Boy's Village of Maryland*

GCL received a FOIA response from MDE regarding UST activities at the Boy's Village of Maryland facility. The pertinent information received from MDE included documentation regarding two Number 2 fuel oil UST locations where leaks were identified and releases occurred. The documentation included reports that more than 47.55 tons of oil-saturated soil were excavated and disposed of and, at one location, two monitor wells were installed. Free product was not observed; groundwater was sampled for benzene, toluene, ethylbenzene, and xylene (BTEX) and total petroleum hydrocarbons (TPH). Analytical results for one recent quarterly groundwater sampling event (July 1994) indicated concentrations of benzene (11  $\mu\text{g/L}$ ), toluene (370  $\mu\text{g/L}$ ), ethylbenzene (440  $\mu\text{g/L}$ ), xylenes (2,800  $\mu\text{g/L}$ ), and TPH (7.3  $\mu\text{g/L}$ ) in the groundwater at the Boy's Village of Maryland facility. According to the MDE Individual Septic Systems and Well Program data base, there are six shallow wells located at the facility.

Based on the FOIA response a release was confirmed at the Boy's Village of Maryland; however, Boy's Village appears to be located downgradient of NCDC as groundwater flow is assumed to the southwest toward the Potomac. The FOIA information is included in Appendix C.

### 5.4.2 *Cheltenham Wetlands Park*

The Cheltenham Wetlands Park, formerly owned by the Navy, is located immediately adjacent to the NCDC property (Figure 2-3). According to Mr. Chris Wagon, MNCPPC, there has never been a known or suspected release at the park. However, it must be noted that several NCDC and Prince George's County personnel identified the wetlands site as an area where former sludge dumping occurred. After some investigation, GCL determined that the sludge disposal and farming was not conducted on the park property, but the sludge was dumped on an area immediately north of the Cheltenham Wetlands Park on property formerly owned and operated by WSSC. The former NCU access road located along the perimeter of the wetlands property was used to gain access to the former WSSC property located north of the wetlands.

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The site of the former NCU-owned and operated landfill/burn pit was included in the property transfer to Prince George's County and is currently located on the southern parcel of the Cheltenham Wetlands Park. The landfill was evaluated in a PA, dated April 1988, conducted by NEESA (Section 4.6). NEESA concluded that no further action was required at this site; however, subsurface sampling was not conducted as part, or subsequent to, the PA.

The Cheltenham Wetlands Park does not appear to be a potential source of contamination to the NCDC base; however, although assumed to be downgradient of the base, the former landfill/burn pit has the potential to be a source of contamination and adversely impact the subsurface.

### *5.4.3 Neighboring Property - Sludge Entrenchment Area*

The Maryland Environmental Service (MES) property, formerly owned by WSSC, is located adjacent to the Cheltenham Wetlands Park. In 1976, WSSC initiated the practice of dumping sludge into approximately three-foot by four-foot trenches on this property and continued the practice until approximately 1979. According to Ms. Melanie Frish, Prince George's County Parks and Recreation Department, the sludge disposal was initiated as the Clean Water Act (CWA) no longer permitted the dumping of sludge into the Potomac River. The sludge disposal was terminated around 1979 with the promulgation of wetlands regulations.

According to the MDE Individual Septic Systems and Well Program data base, 12 monitor wells are identified as being owned by MES and located 3,700 feet to one mile west of Frank Tippet Road. However, the MDE coordinates for the well locations are incorrect as the coordinates would place the wells at the core base of NCDC. According to Mr. Ahmad Razik of MES, the groundwater monitor wells, located on the former sludge entrenchment area, are sampled quarterly. Several of the wells have nitrate contamination, believed to be the result of the sludge dumping, according to Ms. Anne Williams, Prince George's County Health Department. GCL received information from MES regarding the groundwater quality monitoring conducted at 20 monitor wells located at the former WSSC sludge entrenchment site and stream sampling conducted at two locations, one upstream and one downstream of the site. According to MES, five of the 20 wells are currently monitored as well as the stream sampling locations on a quarterly basis for nitrate - nitrogen, ammonium - nitrogen, chloride, specific conductance, and pH. In addition to the above-referenced parameters, the sampling locations are also sampled and analyzed for metals such as cadmium, copper, mercury, nickel, lead, and zinc on a yearly basis. GCL was only provided with data from the period of 1977 to 1992. According to Mr. Razik, MES continues to

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### 6.0 Conclusions and Recommendations

Properties identified as uncontaminated by the EBS are located around the perimeter of the installation and include recreational facilities, outlying wooded areas, and an area adjacent to Redman Avenue. Of the remaining properties, eight areas were identified as not requiring remedial action, 11 areas were identified where remedial action has been conducted and no further action is required, and the following five areas were identified as requiring remediation:

- Building 2 Area - Boiler clean-out wastewater is discharged to sewer lines that are reported to be in poor condition, resulting in a potential impact on the subsurface
- Building 1 Area - Substation 1 and Cooling Tower Area - A confirmed release of PCB-contaminated transformer oil occurred in 1990, impacting a concrete pad and adjacent soil. According to Mr. Ridgeway, the substation 1 area has been "cleaned-up"; however, GCL has not seen confirmation sampling subsequent to remediation efforts. In 1992, an unspecified amount of descalant used to treat cooling tower water was also released
- ✓• Water Tower 7 Area - Lead contamination has been detected in the surficial soils
- ✓• Water Tower 107 and Building 108 Area - Lead contamination has been detected in the surficial soils
- ✓• Former Landfill/Burn Site - Although no longer part of the installation, the Navy could be held responsible for contamination from this potential source
- Building 31 - Piping was identified adjacent to the elevated concrete slab, but the purpose of the piping could not be determined

In addition, to the specific areas identified above, no documentation was available to confirm that a base-wide asbestos survey has been conducted to identify friable ACM or that housing units to be inhabited in the future have been surveyed for the presence of lead-containing paint.

Of the three adjacent properties, the DoE Maryland Relay Site and the Cheltenham Wetlands Park were identified as having no known or suspected releases of hazardous

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substances or petroleum products. Information obtained from MDE indicated that releases have occurred from two USTs at the Boy's Village of Maryland/Cheltenham Youth Facility property. Of the neighboring properties within a two-mile radius of NCDC, one property was identified as a CERCLIS site and as a potential hazardous waste site, one property was identified as a LQG, two properties were identified as SQGs, and 20 properties were identified as UST sites. One additional neighboring property was identified as a site formerly used to dispose of sewage sludge in trenches. It appears none of these properties pose a potential adverse environmental impact on NCDC with the exception of the upgradient former sewage sludge entrenchment area which has been confirmed with elevated chloride and nitrate concentrations in the groundwater.

Specific recommendations resulting from the EBS include the following:

- *Asbestos* - Conduct an asbestos survey of all buildings and structures, including housing, to determine the amount of asbestos on site and prepare an abatement strategy or an Operations and Maintenance (O&M) program to monitor the condition of all ACM at the facility
- *Soil and Groundwater*
  - Characterize the soils in the vicinity of Substation 1 to determine if the site has been impacted by a former PCB release, if necessary
  - Evaluate the subsurface soil conditions in the area of the release of water treatment chemicals below Building 1
  - Evaluate the subsurface in the area of the sewer lines which historically and currently accept boiler clean-out discharge from Building 2
  - Characterize the soil and groundwater at the former landfill/burn site to determine if the area has been impacted by previous activities
- *Lead*
  - Survey lead in paint base-wide and abate confirmed lead in paint where necessary
  - Implement the remediation program for lead in soil at Water Towers 7 and 107; coordinate efforts with MDE to ensure a clean-up objective of 230 mg/kg in soil is acceptable

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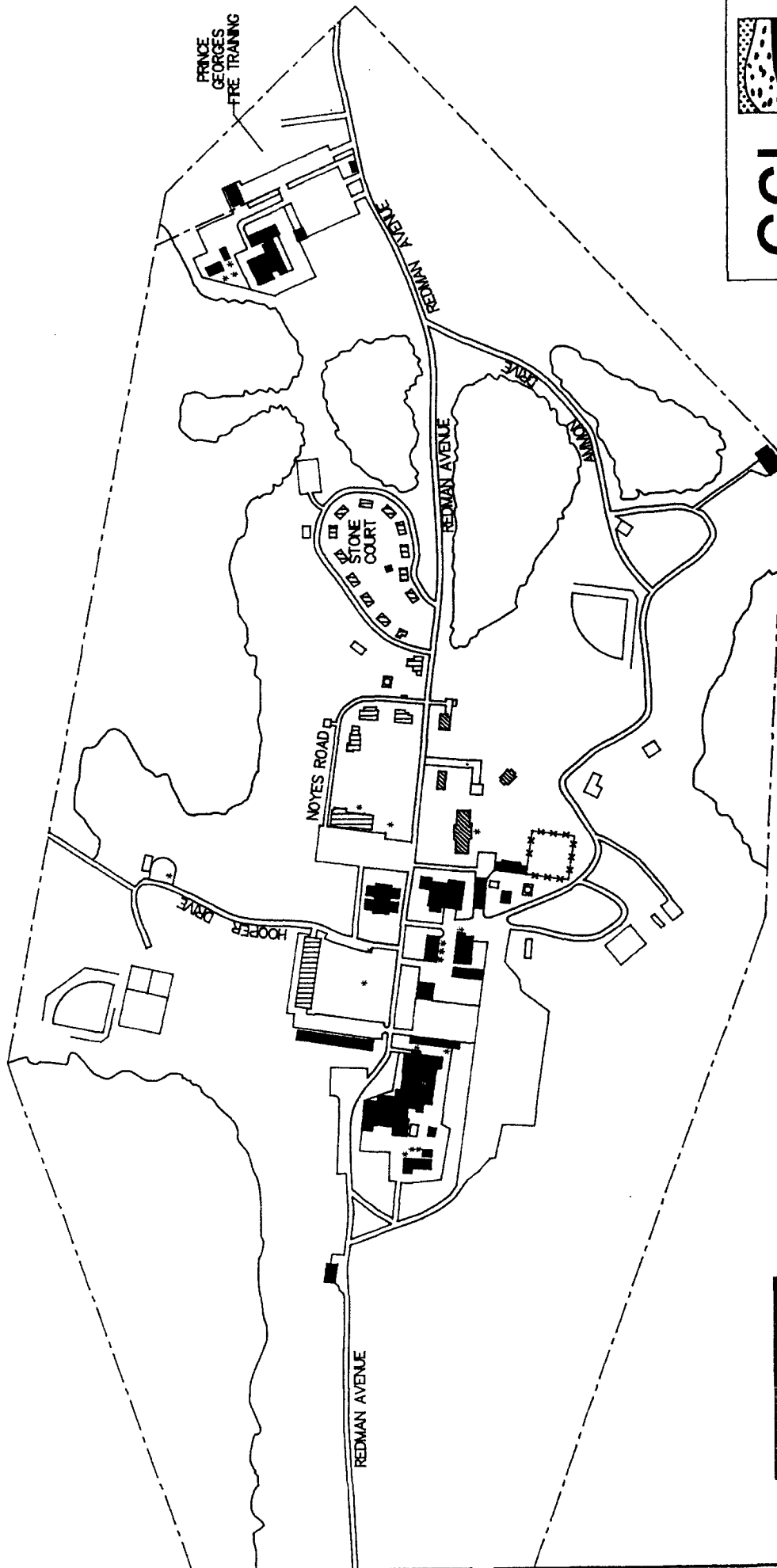
Secondary recommendations that could be implemented to reduce NCDC's potential liability include the following:

- ***Tanks***

- Replace the 1,000-gallon Number 2 fuel oil UST located at Building 13 which was installed in 1957
- Replace the 3,000-gallon Number 2 fuel oil UST located at Building 31 which was installed in 1947
- Conduct annual tightness tests of remaining USTs if this method is used to comply with release detection requirements
- Establish a schedule in order that all USTs will be in compliance with Federal and State regulations by the 1998 deadline for tank upgrades
- Confirm the volume of waste oil in the tank at Building 214; the tank contents should be sampled, characterized, and disposed of accordingly as this system is not in operation

- ***Hazardous Substances***

- Remove and dispose of excess supplies and materials containing potentially hazardous substances (e.g., paints, cleaning compounds) and the items delineated "For Survey" in Building 14, in accordance with State and Federal regulations
- Remove and dispose of old equipment and appliances stored in Building 11 and in the courtyard, in accordance with State and Federal regulations

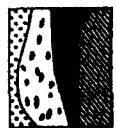


**LEGEND**

- OPERATIONAL FACILITIES
- ▨ HOUSING
- RECREATIONAL FACILITIES
- \* FORMER USMC LOCATIONS



NOT TO SCALE



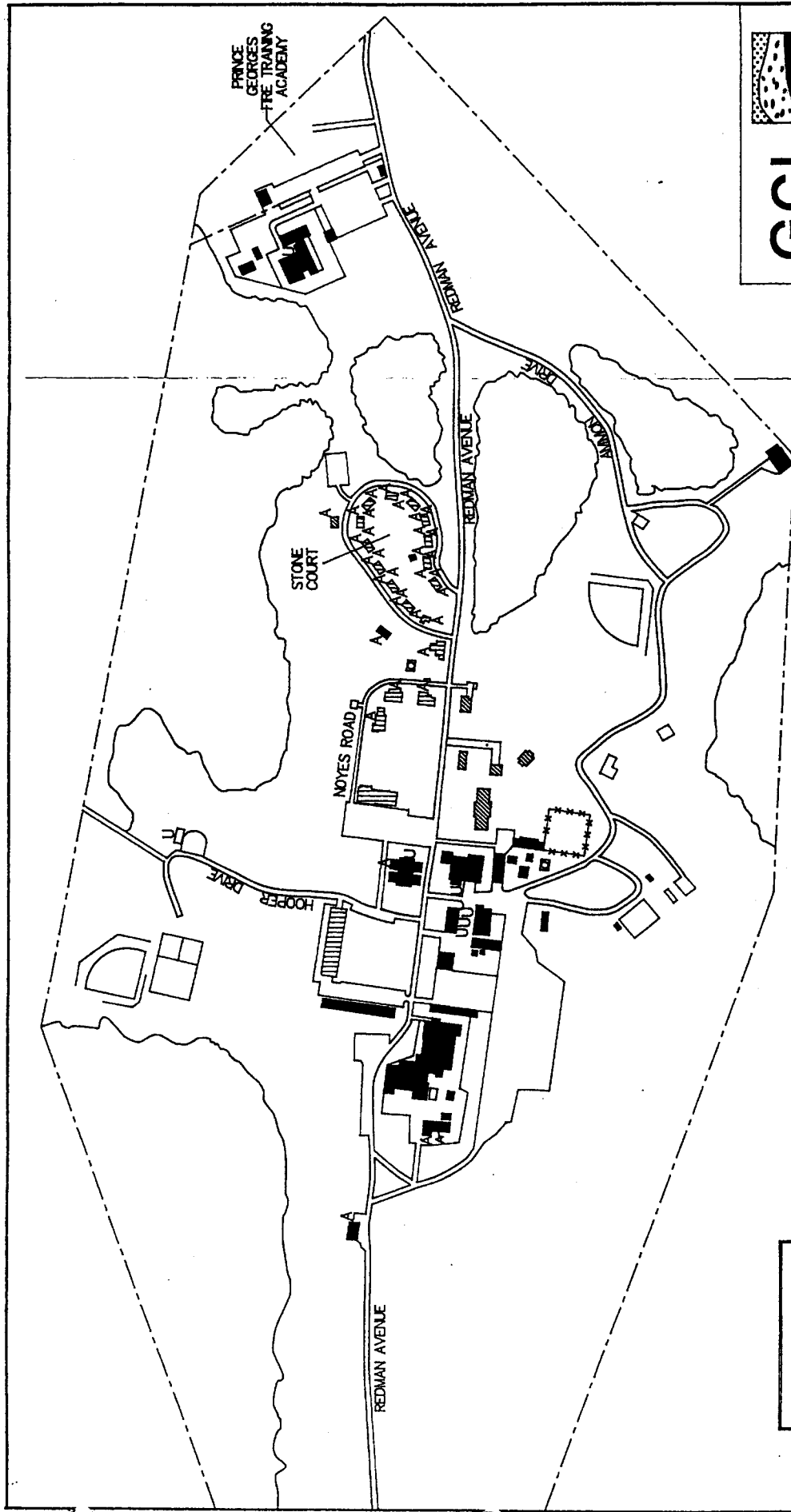
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**FIGURE 4-8**  
**FORMER TANK LOCATIONS**  
**NAVAL COMMUNICATIONS DETACHMENT**  
**CHEL TENHAM, MARYLAND**

CLIENT: NAVY	REVISION NO: 1	DATE: 11/07/94
AUTHOR: JMH	DRAWN BY: TSH	CHECKED: JMH
FILE: 2003-07		

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**LEGEND**

	OPERATIONAL FACILITIES
	HOUSING
	RECREATIONAL FACILITIES
	U
	AST



NOT TO SCALE



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**FIGURE 4-9**  
**CURRENT TANK LOCATIONS**  
**NAVAL COMMUNICATIONS DETACHMENT**  
**CHELTENHAM, MARYLAND**

CLIENT: NAVY	REVISION NO.: 2	FILE: 2003-08
DATE: 11/08/94	DRAWN BY: TSH	
AUTHOR: MH	CHECKED: MH	

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FIGURE 4-11  
DELINEATION OF "CONTAMINATED"  
AND "UNCONTAMINATED" PROPERTIES  
NAVAL COMMUNICATIONS DETACHMENT  
O-ELTENNAN, MARYLAND

CLIENT: NAVY	REVISION NO.: 2
DATE: 12/15/94	DRAWN BY: WFG
AUTHOR: M.H.	CHECKED: M.H.
	FILE: 2003-1

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